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Connecticut Medicine

The Journal of the Connecticut State Medical Society

VOLUME 46 JANUARY 1982 NUMBER 1

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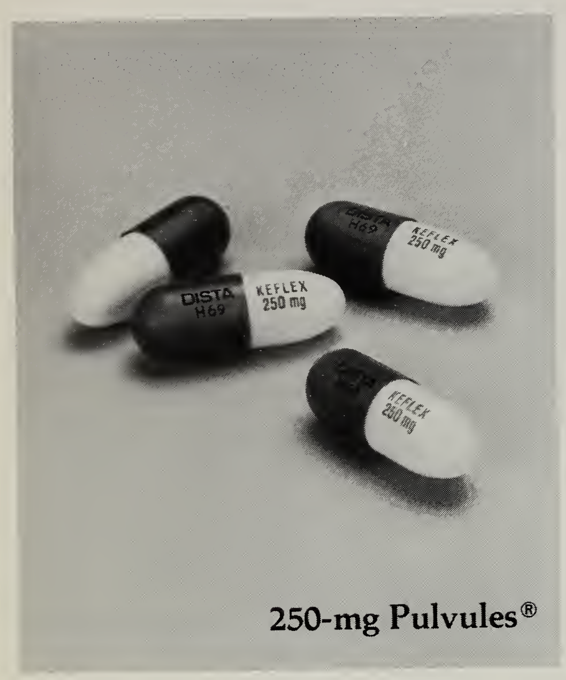
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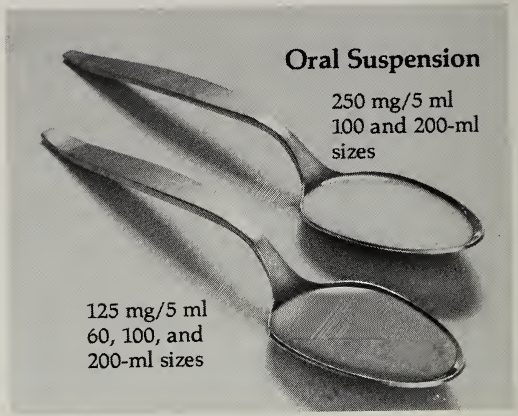
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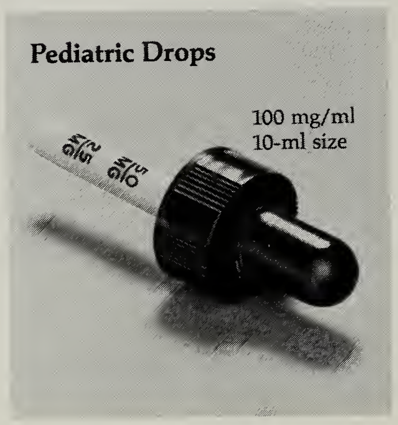
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Successful Repair of Aortic Rupture Following Coronary Artery Bypass Grafting

SURENDRA K. CHAWLA, M.D. AND LOUIS BROWN, M.D.

ABSTRACT—Aortic injury in the form of intimal tear, dissection or localized aneurysms are rare complications of cross-clamping during aorto-oronary bypass grafting. Frank perforation of the ascending aorta secondary to aortic cross-clamping has been invariably fatal. To our knowledge this case represents the first successful repair of ascending aortic perforation in the immediate postoperative period. The principles that have evolved to manage this complication are described.

Aorto-coronary bypass grafting has become accepted as the surgical treatment of a certain group of patients with coronary artery disease.[1] Glucose-insulin-potassium cardioplegia with instillation proximal to aortic clamp is a standard means of myocardial preservation at many institutions. Fortunately, aortic injury in the form of intimal tear, dissection, or localized aneurysms are rare complications of cross clamping. Frank perforation of the ascending aorta, has been invariably fatal.[2,3] This is the only reported case of a successful repair of ascending aortic rupture secondary to cross clamp injury.

Case Report

A 68-year-old white male was admitted with a history of unstable angina and a subendocardial infarct. A Multiple Gated Accentuated Study revealed an ejection fraction of 55%. Selective coronary angiography revealed severe stenosis of the proximal right coronary artery. The left main coronary artery, the circumflex and marginal systems seemed to be free of disease. The left anterior descending artery revealed a critical stenosis proximal to a large septal perforator. Eight years earlier, the patient underwent resection of a large abdominal aortic aneurysm with the placement of a bifurcation graft with an end-to-end anastomosis to the proximal aorta and an end-to-side anastomosis to both common femoral arteries.

Aorto-coronary bypass grafts to the right and left anterior descending arteries were performed without incident. Calcification of the anterior wall of the ascending aorta was noted. The arterial inflow cannula was inserted through the anterolateral aspect of the ascending aorta just proximal to the innominate vessel. Preservation of the myocardium was achieved with systemic hypothermia (30 degrees centigrade), local hypothermia (4 degrees centigrade Ringers Lactate solution) and instillation of glucose-insulin-potassium solution in the aortic root. Both distal anastomoses were carried out with a single cross clamp. There was no unusual discoloration of the ascending aorta at the end of the procedure.

The patient made an uneventful recovery until the seventh postoperative day when he had a sudden episode of dizziness while getting out of bed. Blood pressure was not obtainable and electrocardiogram revealed supraventricular tachycardia. The patient was transferred to the Coronary Care Unit where electrocardiogram revealed no evidence of acute transmural myocardial infarction. Intravenous heparin was given for suspected pulmonary embolism. The echocardiogram revealed a moderate pericardial effusion with suggestion of an enlarged aortic root.

Because of sustained hypotension and a narrow pulse pressure, pericardial tamponade and deterioration of clinical status necessitated opening of the lower part of the sternotomy wound to relieve the pericardial tamponade. The patient showed initial improvement after a large amount of old blood was aspirated from the pericardial sac. Because of continued blood loss and rapidly falling systolic blood pressure, the entire sternotomy wound was opened in the Coronary Care Unit. Fresh arterial blood was noted from the ascending aorta posterior to the anastomosis of the left anterior descending graft to the aorta.

After volume replacement and with finger control of the bleeding site, the patient was transferred to the operating room. He was placed on partial cardiopulmonary bypass with an arterial cannula in the left limb of his aortofemoral bifurcation graft and a venous cannula via the left common femoral vein.(Figure 1)

Surgical exploration revealed a defect in the aortic wall, of approximately one centimeter, posterior and superior to the aorto-saphenous suture line. (Figure 2) Both the grafts were disconnected from the ascending aorta. There was separation of intima from the media and adventitia at the site of the perforation, indicating an old dissection. The anterior and medial wall of the ascending aorta was replaced with a Teflon patch. Myocardial preservation was obtained with systemic hypothermia (28 degrees centigrade) and cold glucose-insulin-potassium solution infused to the heart via both saphenous vein grafts. The saphenous vein graft to the left anterior descending coronary artery was re-anastomosed to the patch graft and the right coronary graft was sewed to the left anterior descending graft in an end-to-side manner. (Figure 3) Because of the patient's inability to come off cardiopulmonary bypass an intra-aortic balloon counter pulsation catheter was inserted via the right limb of the aorto-femoral bifurcation graft. (Figure 1) The patient was returned to the operating room after twenty-four hours for evacuation of clots and surgical packing around the aortic suture line. He was given Cephalosporin and Gentamycin intraoperatively and for ten days postoperatively. Except for transient renal failure and transient mental confusion, he

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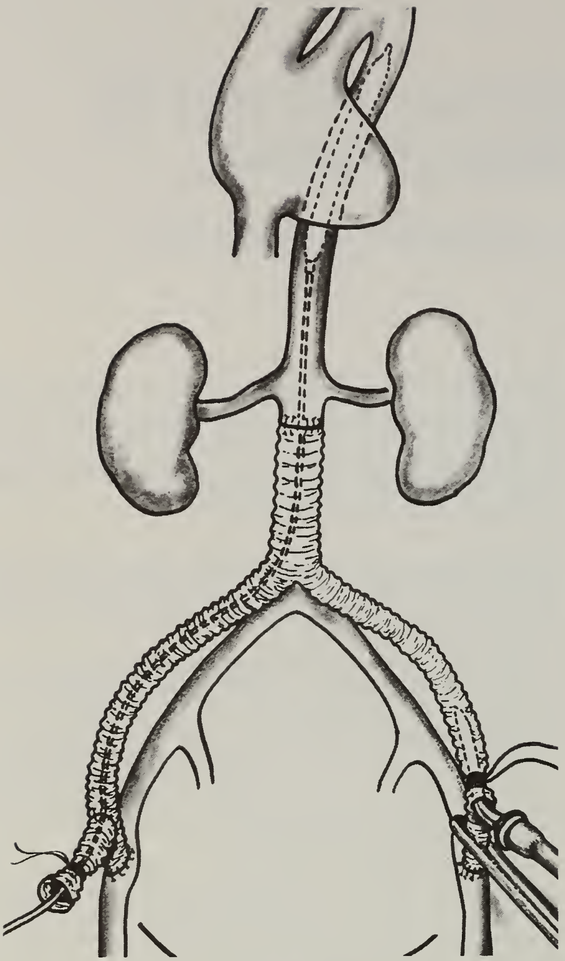

Figure 1
Showing previously placed aortic bifurcation graft. Left limb of the graft utilized for insertion of arterial cannula for cardiopulmonary bypass and right limb for insertion of intra-aortic balloon catheter.

made an uneventful recovery. Repeat Multiple Gated Accentuated Study revealed an ejection fraction of approximately 85%. The patient was discharged on the twenty-second postoperative day. The patient was readmitted three months postoperatively for placement of a permanent pacemaker for sick sinus syndrome. Aortogram at that time revealed an excellent repair of the ascending aorta and a patent saphenous vein graft to the left anterior descending. There was no evidence of aortic regurgitation.

Comments

The usual complications of aorto-coronary bypass surgery are myocardial infarction, congestive heart failure, thrombosis of the vein graft, intimal proliferation and obstruction of the vein grafts.[4] Cross clamp injury of the ascending aorta with intimal tear, dissection or formation of a localized aneurysm is uncommon. Frank rupture of the aorta secondary to cross clamp either at the time of original operation or delayed rupture after initial dissection is rare and usually fatal.[2, 3]

There is no uniform predisposing factor among these patients. It is reasonable to assume that the patients with Marfan's Syndrome, cystic medial necrosis, post stenotic dilatation of the aorta secondary to aortic stenosis or degenerative atheromatous disease would be more likely to sustain such injury. McKay et al.[5] noted medial degeneration in patients with a floppy mitral valve with aortic dissection secondary to the aortic cross clamp. Dissection of the ascending aorta originating from the thoracic aortic cannula site has been reported by Williams et al.[6] Improper placement of the cannula in the wall of the aorta with subsequent initiation of cardiopulmonary bypass will lead to profound arterial hypotension, high perfusion pressure in the arterial tubing and immediate bluish discoloration of the ascending aorta. Frank perforation has not been described with this complication.

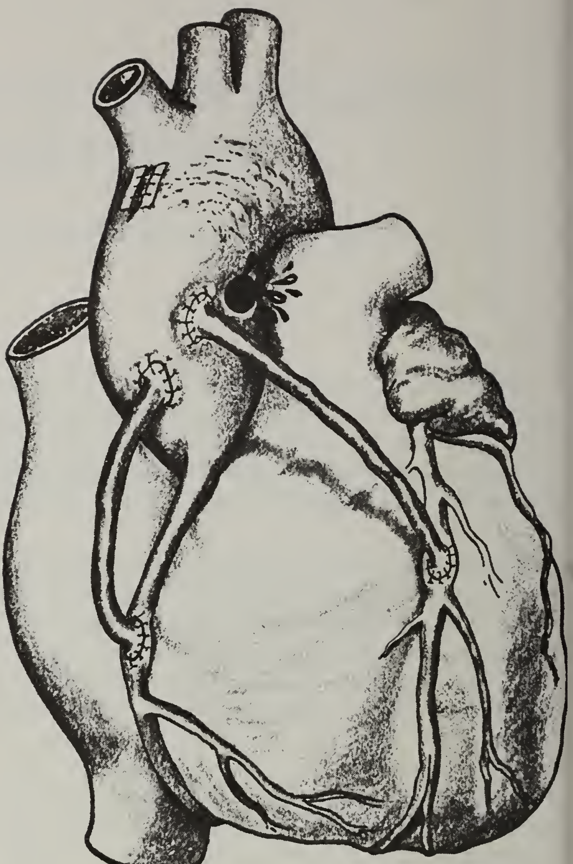

Figure 2
Showing aorto coronary bypass graft to the right and left anterior descending coronary arteries. Aortic cannulation site, aortic wall calcification and aortic rupture site are demonstrated.

Muna et al.[7] reported dissection and frank perforation of the aorta after aortic valve replacement. The use of prosthetic valves with peripheral flow characteristics may predispose to late rupture of the aorta due to lateral shear stresses on the arterial wall.

Most of these injuries are related to the placement of the clamps especially if accompanied by high perfusion pressure. This seems logical since most tears were found where the cross clamp had been placed. In over

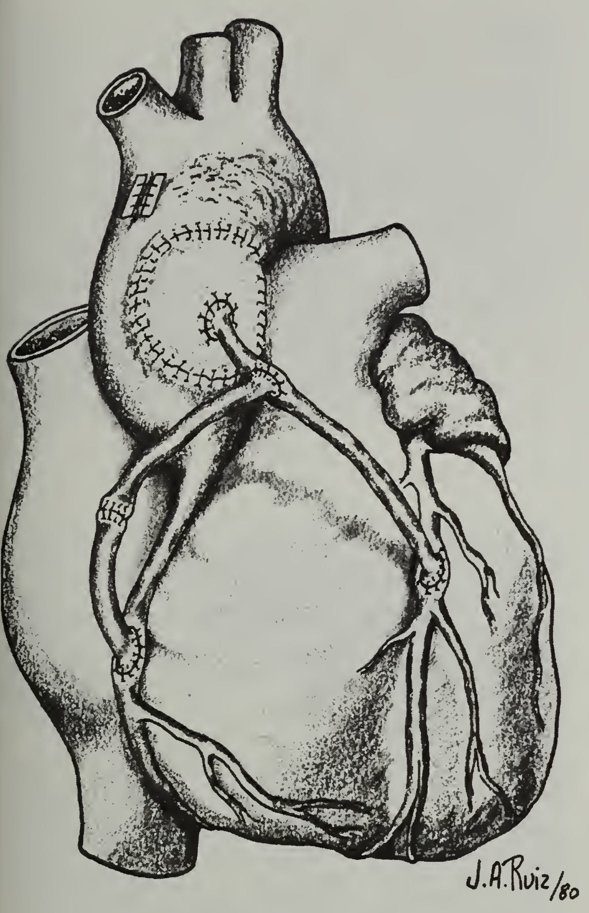

Figure 3
Demonstrating the repair technique with Dacron patch graft to the ascending aorta and reanastomosis of saphenous vein grafts.

five hundred bypass operations using this method at our institution there has been no other instance of dissection or perforation.

The calcific ascending aorta noted at the original operation, the evidence of dissection of the aorta noted at the area of perforation and the location of the intimal tear at the site of aortic cross clamp placement lead us to believe that the aortic rupture was secondary to clamp injury.

One of the benefits of intra-operative aortic dissection secondary to cross clamp injury is early recognition so that proper treatment can be instituted. Acute dissection should be recognized promptly and treated appropriately. This involves discontinuation of the aortic cannulation and restoration of the cardiopulmonary bypass via the femoral artery or the transverse arch. The two walls of the aorta are repaired with either a primary end-to-end anastomosis or interposition of a prosthetic tube graft. The proximal segments of the saphenous vein graft can be anastomosed to the tube graft.

In the management of aortic rupture a high index of suspicion is a prerequisite. Delayed dissection or rupture as noted in the present case is usually fatal because of delayed recognition and a very friable aorta. Cases reported by Black,[2] Borcho[3] and Lithford[8] with free perforation of the aorta have all died. Early recognition, aggressive surgical therapy and precise surgical technique remain the keystones for success in repair of these potentially fatal complications.

Hallmarks of intra-operative management include control of aortic bleeding and institution of cardiopulmonary bypass via the femoral vessels. Myocardial preservation through the vein grafts is essential. Aortic continuity is then restored either by primary repair or, preferably, with a prosthetic patch or tube graft of the ascending aorta. This is followed by anastomosis of the vein grafts to the prosthetic patch or graft.

Prevention of this complication is preferable to successful repair. Description of a variety of atraumatic vaso-clamps has been reported.[9] It is possible that the use of a less traumatic hydrogrip clamp might have prevented this complication. Temporary cessation of bypass while the aortic clamp is being placed may be helpful in preventing aortic injury.

The previously placed abdominal aortic bifurcation graft functioned well in the retrograde perfusion for repeat cardiopulmonary bypass. Extreme care is needed to avoid damage and destruction of the new intima during cannula and balloon catheter placement. A side limb graft can be sutured easily for placement of an intra-aortic balloon counter pulsation catheter if needed.

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Long-Term Palliation of Ampullary Carcinoma Using Endoscopic Papillotomy

KENNETH R. MIRKIN, M.D. AND ROBERT ROSSON, M.D., F.A.C.P.

Endoscopic papillotomy (EP) has been shown to be a valuable alternative for the removal of common bile duct stones.[1] Recently, there have appeared scattered reports attesting to its efficacy in the palliation of carcinoma of the ampulla of Vater.[2] This report documents a case of long term palliation of ampullary carcinoma using EP as the sole means of therapy.

Case Report

VB is a 94-year old man who was seen by his physician in October, 1978, because of recurrent bouts of fever and chills. On his initial examination he was discovered to be jaundiced. His laboratory data were as follows: SGOT 185, SGPT 150, alkaline phosphatase 384, and bilirubin 6.0 (5.2 direct).

An ERCP was performed and a smooth mass was seen at the ampulla of Vater. This was cannulated and both pancreatic and biliary ducts were found to be dilated (Figure 1). Biopsies and brushings for exfoliative cytology were negative for tumor. Endoscopic papillotomy was performed with good flow of bile after the initial cut. This was followed by improvement of his symptoms and signs of obstruction.

Eighteen months later, in August, 1980, he returned with an upper gastrointestinal hemorrhage. Upper endoscopy revealed a friable cauliflower-like lesion at the ampulla which bled easily. Biopsies and brush cytology were positive for adenocarcinoma. At this time his bilirubin and alkaline phosphatase were normal.

Two months later he was admitted with an unrelated urological problem and was found to have the following laboratory data: SGOT 75, SGPT 80, alkaline phosphatase 260, and bilirubin 4.2 (3.5 direct). A second ERCP was performed (Figure 2) which was followed by a second EP. Again, there was increased flow of bile with subsequent relief of his obstructive chemistries. He was discharged from the hospital after his urological procedure and continues to enjoy good health 30 months from the time of his original papillotomy.

Carcinoma of the periampullary region can be divided into various groups: 1) tumors of the ampulla of Vater; 2) tumors of the lower end of the common bile duct; and 3) tumors of the duodenum in the region of the ampulla.

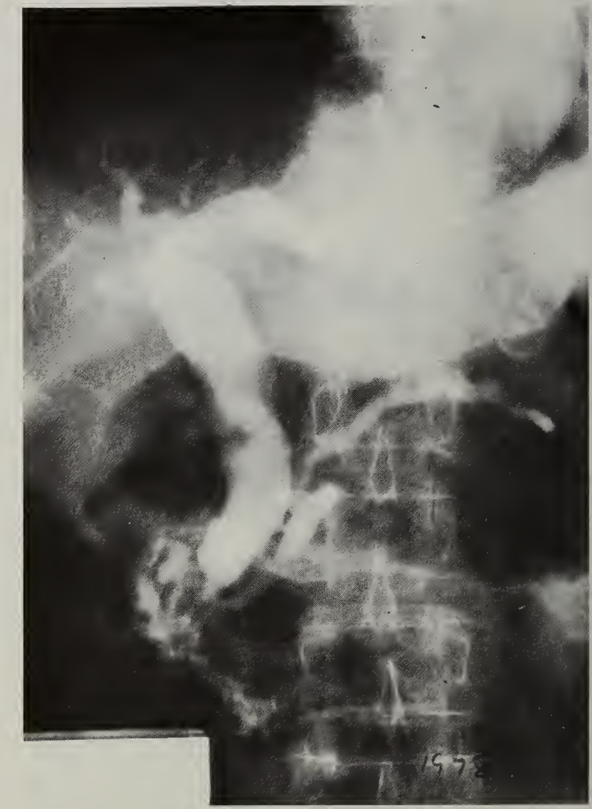

Figure 1
Dilated bile duct and pancreatic duct with narrowing of the distal ducts suggesting mass effect.

Traditionally, these three subtypes of periampullary carcinoma have been grouped together when comparing treatment modalities and survival data.[3, 4]

The therapy for these tumors has usually consisted of major surgical intervention, usually a radical pancreatoduodenectomy (Whipple procedure). The average survival period has been put at forty to fifty months for the Whipple procedure, with a five-year survival

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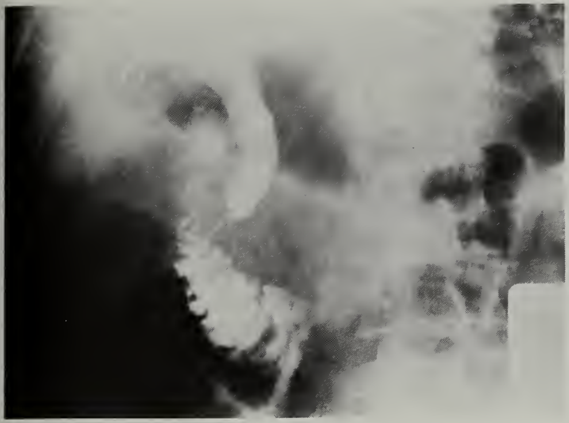

Figure 2:
Dilated bile duct again with narrowing distally due to mass effect.

ranging from 30-40%. However, this procedure carries with it an operative mortality of 15-20%.[3,4,5]

If, on the other hand, one separates the data of patients who present at greater than 70 years of age, the statistics are quite different. This mean survival is less than three months for carcinoma of the ampulla and the operative mortality is higher.[3,4]

Another "curative" procedure has been an ampullectomy; and although the perioperative mortality is lower, survival statistics are not as good.[6]

Palliation of those tumors that are extensive or have liver metastases at presentation has usually been accomplished by some form of operative biliary bypass, either a choledoco- or cholecysto-enterostomy. Recently, therapeutic transhepatic cholangiography[6,7,8,9] has also been attempted, especially for the preoperative decompression of an obstructed bile duct. However, its effectiveness in long-term palliation may be limited by clotting of external drains, migration of internal stents, and the risk of significant hemobilia or infection.

Safrany has used EP in patients scheduled for radical surgery as a means of allowing for a better biopsy from deeper layers of the tissue, and thus increasing diagnostic accuracy. He also used this as primary palliative therapy in 21 patients who were deemed inoperable. Five of these required repeat EP and his maximal symptom-free period was 21 months.[2]

From the literature, it seems that elderly patients do not fare well with radical surgery (mean survival less than 3 months post Whipple) and, therefore, perhaps a lesser procedure should be contemplated. An ampullectomy is a viable choice, but does require general anesthesia and carries a significant morbidity.

EP, on the other hand, is a safe, relatively easy procedure, especially in this setting. The tissue is quite friable and splits easily with minimal current. What is also important is the ease with which the procedure can be repeated if symptoms recur.

Although EP should not be considered a therapeutic alternative in patients who are young with localized disease, it is a viable form of palliation when compared to bypass surgery. If radical surgery for cure is contemplated, EP offers an effective means of preoperative biliary decompression.[10] Finally, it may prove to be a superior form of primary therapy in the elderly patient, a sub-population that suffers increased morbidity and mortality from conventional surgery.

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CO_2 Urethroscopy and Urethrocystometrics in Office Gynecology

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ABSTRACT—Diagnostic techniques in gynecologic urology now include more dynamic assessment of urethrovesical function. This study aimed to evaluate the use of CO_2 urethroscopy and urethrocystometrics as office aids in diagnosis of lower urinary tract complaints in women. Over two years 112 patients were investigated. Follow-up ranged from 6 to 30 months. A history consistent with stress urinary incontinence was recorded in 72 patients (64%). Anatomic defect was confirmed in only 53. The other 19 patients had local urethral disease or unstable bladder causing stress. The remaining 40 patients (36%) had urgency by history, and various dynamic dysfunctions were observed. CO_2 urethroscopy and urethrocystometrics were found very useful in diagnosis, and well suited to office gynecolory.

Women with urologic complaints are very commonly seen in the office practice of obstetrics and gynecology. Apart from the acute infectious conditions, problems relating to urinary bladder control are among the most frequent that the practitioner must evaluate and treat. To the degree that the evaluation is accurate depends the success of treatment.

For many years various approaches have been made by urologist and gynecologist to a better understanding of lower urinary tract anatomy and physiology. In recent years the use of cystometry and urethrography expanded knowledge for the identification of true stress urinary incontinence. The recognition of anatomic defects that were surgically correctible led to the description of multiple vaginal and abdominal procedures specifically directed to a particular recognized defect.

Despite the proliferation of operative methods, the failure rate for the correction of incontinence remains high. Vaginal operations have, a reported 10 - 40% failure rate[1] and abdominal operations a reported 7 - 15% failure rate.[2, 3]

Certainly the procedure, operative skill and post operative complications may account for some failures. There is, however, growing recognition that stress incontinence is not just an anatomic problem to be studied with static procedures and corrected with operative kinking of the urethrovesical junction. Rather, that it can also be a dynamic dysfunction of bladder and/or urethra requiring a more physiologic approach in diagnosis as well as pharmacologic attempts at treatment. Bradley,[4] Ostergard,[5, 6, 7] Tanagho,[8, 9] and Robertson[10] are among those who have made multiple contributions to the more current concepts in urodynamics techniques of investigation and methods of treatment.

Whether the recent advances in urethral pressure profiles, uroflowmetry, cystometrics, electromyography, electroneuromyography and urethroscopy will more properly select patients likely to respond to specific medical or surgical therapy is of the greatest interest to the practitioner seeking to improve the outcome for patients with lower urinary tract complaints.

For two years CO_2 urethroscopy and urethrocystommetrics have been performed in the office practice of gynecology for the evaluation of 112 patients with such complaints. This report reviews the author's experience with this procedure.

Patients and Method

Of the 112 patients evaluated, 92 were from the author's practice, 10 were referrals from other physicians, and 10 were from the Gynecology Clinic at St. Francis Hospital, Hartford, Connecticut.

A general and detailed urologic history was obtained; a pelvic examination performed; and CO_2 urethroscopy and urethrocystometrogram recorded at the same or

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second office visit. One hundred and three urethroscopic procedures were performed by the author, nine by one of his associates in practice. Ten of them were done with resident participation.

The CO_2 Robertson Urethroscope and Browne GD5 EMK Urodynamic Monitor with fiberoptic light source were used. Cidex sterilization was standard. The procedure was explained to each patient. Povidone Iodine prep and 1% Xylocaine jelly at the urethral meatus were employed. The steps followed are listed.

1. Visualization of the urethral canal.
2. Progressive measurement of the distal, mid and proximal urethral pressures were recorded on a permanent graph.
3. Measurement of bladder residual.
4. Specimen for analysis, culture and sensitivity.
5. Return to mid urethra for observation of urethrovesical junction function with bladder filling (150 cc/min of CO_2).
6. Recording of bladder filling pressure, sensory and motor capacities.
7. Observation for anatomic defect of the urethrovesical junction with the patient straining.
8. Reentry into the distended bladder for visualization of the trigone and ureteral orifices.
9. Escape of gas for rapid patient comfort.

An anatomic defect consistent with stress urinary incontinence was considered to be present when: 1) mid urethral pressures were reduced by 50% or more below the normal of 80 - 100cm H_2O; 2) the visualized urethrovesical junction of the full bladder collapsed with the patient straining.

Methods, definitions and units conform to the standards proposed by the International Continence Society.[11]

Results

Diagnostic findings are shown in Table I.

Table II lists the treatments rendered the 53 patients in Group I with anatomic defects. A total of eight different physicians, employing a variety of procedures, were responsible for these treatments. Follow-up ranged from 6 to 30 months. Outcome was considered excellent when the patient was relieved of all previous

TABLE I

Diagnosis By History and Urethroscopy

Diagnosis by history	No	Diagnosis by Urethroscopy	No	%
Group I SUI	72	Anatomic SUI	53	47
		Non-Anatomic Dysfunction*	19	36
Group II UI	40	Non-Anatomic Dysfunction	40	35
TOTAL	112		112	100

SUI: Stress urinary incontinence. UI: Urge incontinence.

* Unstable bladder, chronic urethritis, urethral stenosis.

TABLE II

Treatment and Outcome In 53 Patients With Anatomic Stress Incontinence Confirmed By Urethroscopy and Followed for 6-30 Months

			OUTCOME				
Treatment	No.	Complications	Excellent	Improved	Unimproved	Pending	Lost F.U.
Kegels	2			1	1		
Estrogen	2				1		1
cream	2						
Sling	1		1				
Vag. Hyst & repair	4	1 p.o. urgency persists	3	1			
Vag. repair	12	1 recurrent cystitis	8	3	1*		
Abd. Hyst & RUS	9	1 retention in epileptic (cath x 3 wks)	5	4			
RUS	15	1 urethral stenosis (dilated x 2)	12	3			
Refused Surgery	2				1		1
Surgery pending							
-wgt loss	2					2	
-schedule	3					3	
Surgery deferred	1				1+		
TOTAL	53		29	12	5	5	2

Outcome: *Excellent* - no residual symptoms; improved - significant but incomplete relief of symptoms; unimproved - no change in symptoms.

RUS: Retropubic Urethrovesical suspension

* only operative failure

+ 3 years post radiation cervix cancer

lower urinary tract symptoms; improved when there was significant but not complete relief; and unimproved when there was no change. The distribution of follow-up patient by patient is not described, since the one operative failure is separately discussed. Also, the emphasis of this study was on diagnosis rather than advantage of one operation over another.

Of the 41 patients operated on, the one failure followed an anterior vaginal repair. The patient underwent a successful Marshall Marchetti Krantz procedure one year later. This case was considered an operative rather than a diagnostic failure. The total operative failure rate, therefore, in this group of patients with stress incontinence confirmed by urethroscopy was 2.7%.

Table III describes the findings, treatment and outcome in the 19 patients in Group I who had a history of stress incontinence found by urethroscopy to be due to causes other than an anatomic defect.

Table IV describes the findings, treatment and

TABLE III

Diagnosis By Urethroscopy In 19 Patients With Non-Anatomic Stress, Including Treatment and Outcome

			OUTCOME			
Diagnosis	No.	Treatment	Excellent	Improved	Unimproved	Lost to F.U.
Normal	1	Tranquilizer	1			
Unstable Bladder	13	Bladder training Diet and habit modification Change medication for HBP, psychotherapeutic Anticholinergics +	4	3*	5	1
Urethral Stenosis	1	Dilatations	1			
Chronic Urethritis	2	Dilatations Phenol/glycerine instillations Antimicrobials		1		1
Bladder Cancer & SUI	1	Referred to Urologist			1	
Neurogenic Bladder	1	Referred for uro-neuro evaluation			1	
TOTAL	19		6	4	7	2

HBP: High Blood Pressure, SUI: Stress Urinary Incontinence

* Patients had all had vaginal repairs 5 to 15 years previously.

+ One patient with old ulcer history developed acute gastric dilitation.

TABLE IV

Diagnosis, Treatment and Outcome In 40 Patients With Urge Incontinence. (Group II)

			OUTCOME			
Diagnosis	No.	Treatment	Excellent	Improved	Unimproved	Lost to F.U.
Normal	4	Diet for obesity	1	1	2*	
Unstable Bladder	15	Bladder training Diet and habit modification Anticholinergics	2	8	1	4
Small Bladder Syndrome+	8	Bladder training Diet and habit modification	2	2	1	3
Urethral Stenosis	1	Dilatation		1		
Chronic Urethritis	9	Dilatations Phenol/glycerine instillations Antimicrobials	3	3	1	2
Neurogenic Bladder						
Hypertonic	2	Medical Consult			2‡	
Hypotonic	1	Change medication (psychotherapeutic)			1	
TOTAL	40		8	15	8	9

* One patient this group referred for medical consult: possible multiple sclerosis.

+ Sensory stimulation by small volume.

‡ One patient this group on chemotherapeutics for lymphoma; one with possible multiple sclerosis.

outcome in the 40 patients in Group II. These were all considered by history to have urge incontinence. Urodynamic study did not show any of these to have anatomic stress incontinence. There were 15 patients with objective findings of unstable bladder, eight with small bladder syndrome, nine with chronic urethritis and one with urethral stenosis.

In reviewing the histories of the entire 112 patients in this study it was found that there were 23 patients (20%) who had had previous operations for the correction of stress urinary incontinence. These 23 previously operated patients had undergone a total of 28 procedures ranging from 1 to 30 years prior to the present evaluation. Table V describes these patients. Ten were found to have persistent anatomic defects. Thirteen had other demonstrable causes for their unrelenting symptoms.

Discussion

CO_2 urethroscopy and urethrocystometrics are relatively easy office procedures to perform, particularly so for the present day gynecologist who has become accustomed to the use of other endoscopic procedures. Observing an anterior vaginal wall bulge as the patient coughs or strains; compressing the urethra to determine the need for support; studying the "angles" with static radiologic procedures, are all techniques that do not adequately define the dynamics of bladder function, especially so in the patient with unstable bladder or urethral disease.

This study found that evaluation performed in the office with the urethroscope was able to confirm the urethrovesical anatomic defect causing stress incontinence in 53 of 112 patients (47%). In a review of 279 patients studied by urethroscopy, Aldridge, et al[12] found anatomic stress in 43% of patients. Failure rate in this group of selected patients was also very low.

The 19 patients whose stress incontinence was due to causes other than anatomic defect made up 17% of the total number studied. This percentage corresponds generally with the statistical failure rate for stress operations previously described. It is this group with unstable bladder, chronic urethritis, urethral stenosis, neurologic or psychophysiologic reaction that benefited the most from urethroscopy. Inappropriate surgery was avoided. Treatment was more specifically pharmacologic or local to the urethra.

The 40 patients with urge incontinence had no anatomic defect at the urethrovesical angle. Urodynamic study was useful in identifying the likely underlying dysfunction. This led to referral for further evaluation in some; local urethral treatment or systemic medication in others. Improvement was noted in only slightly more than half the cases.

Of the entire 112 patients only 13, or 11%, were found to have chronic urethritis or stenosis, as compared to 48% in the review made by Aldridge, et al, in 1978. Included in their study were 76 patients with symptoms of dysuria, pelvic pain or hematuria. No patient with possible or proven acute infection was included in this report.

Unstable bladder was found in 28 patients (25%) of the total 112 studied. This compares to 16% of 91 patients recently reported by Weprin[13] in a study of office screening for this condition using a standing cystometrogram. X^2 analysis of these two patient groups shows $p>0.1$.

Four other observations were made.

1. Preoperative urethroscopy and urethrocystometrics were able to identify a compensatory small bladder syndrome in 11 patients with anatomic stress incontinence. This led to proper patient preparation for continued post operative

TABLE V

Urethroscopic Findings In 23 Patients With History Of Previous Surgery

				URETHROSCOPIC FINDINGS			
First operation	No	Second operation	No	SUI	Unstable bladder	Urethral stenosis	Chronic urethritis
Vag. repair	5			2	1		2
Vag. Hyst. & repair	6	RUS	1	2	2	1	1
Abd. Hyst.	4	Vag. repair	2	2	1		1
Abd. Hyst. & Radiation*	1	Vag. repair	1	1			
Abd. Hyst. & RUS	4			2	1		1
RUS	1						1
Sub-ureth. divertic	1	RUS	1	1			
Urethral caruncle	1						1
TOTAL	23		5	10	4	2	7

RUS: Retropubic urethrovesical suspension.
SUI: Stress Urinary Incontinence
* Cancer of cervix.

frequency; and, planned bladder retraining after surgery. Disappointment and anxiety over residual symptoms could be reduced.

2. Urethral diverticuli have been described as frequent findings on urethroscopy. Careful search for them in this series of patients did not reveal any.
3. In patients who had previous unsuccessful operations it was interesting to actually visualize the "battered" urethra (fixed, shortened, tortuous, dilated), or, the elevation of mid urethra or trigone from sutures previously placed at the incorrect level. This view of the distorted anatomy was particularly helpful in selecting one patient for a sling operation. A combined vaginal dissection and abdominal suspension produced a successful result after many years of severe stress.
4. Urethroscopy cannot substitute for cystoscopy. Where other bladder pathology is suspected or found, prompt consultation with the urologist is essential.

Conclusion

CO_2 urethroscopy and urethrocystometrics are appropriate office procedures that contribute to the dynamic assessment of patients with gynecologic-urologic complaints of the lower urinary tract. This relatively painless, low cost office procedure allows the gynecologist to properly select patients for surgery. Equally important, urethroscopy helps to select those who likely would not be helped or possibly be made worse by operations for stress urinary incontinence. Finally, it contributes to a decision for nonsurgical therapy, or, where appropriate, for referral to urologist, neurologist, or internist.

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Abdominal Mass and Fever: Renocolic Fistula Disease

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AND RICHARD LOPATIN, M.D.

Case Presentation

A.M. is a thin white 52 year old female who presented with a two month history of left upper abdominal-left flank pain and recent fevers. Patient admitted to an active alcoholic social history. There was no history of diabetes, tuberculosis or previous renal disease. Patient did recall being treated for bladder infections in the past but denied any recent cystitis symptomatology. The patient experienced occasional mild diarrhea, with an 8 pound weight loss in last two weeks.

An outpatient ultrasound study of the abdomen disclosed an enlarged, hydronephrotic left kidney. Urinalysis showed pyuria. An office IVP denoted a poorly functioning enlarged left kidney with distorted, dilated calyces and fillingdefects apparent in the lower pole calyceal tree. (Figure 1) The dilated renal pelvis also manifested filling defects; no dye extravasation was noted. The left ureter did not visualize. the right kidney, ureter and bladder were normal. The patient

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was hospitalized at Park City Hospital on July 1, 1980 with a 104.2 temperature, 16,600 leukocytosis, left CVA tenderness and a left upper quadrant mass. BUN was 9. A left retrograde pyelogram filled the proximal portion of the descending colon and distal segment of the transverse colon with contrast, indicative of a reno-colic fistula. (Figure 2) The bladder was normal on cystoscopy. Barium enema did not demonstrate the fistulization but the proximal portion of the descending colon was fixed, with a narrowed lumen. (Figure 3) No intrinsic colonic defects were noted. A lower pole renal mass was noted infiltrating the colon wall. The chest x-ray was negative. Fasting blood sugar was 119. BUN 9. Urine culture x 2 was negative. Blood culture x 2 was negative. the patient had a 10.3 hemoglobin.

The patient was hydrated and treated with intravenous Tobramycin on which she defervesced. On July 7th exploratory laporotomy was performed, at which time the proximal portion of the descending colon was found to be indurated and adherent to the underlying retroperitoneal fascia. With mobilization of the involved colon, an abscess cavity between the colon and left renal hilus was opened, from which Proteus Mirabilis was cultured. A segmental colon resection with primary reanastomosis and nephrectomy was performed. The liver appeared cirrhotic. The post-operative course was uneventful except for a slow return of normal bowel peristalsis.

Pathology disclosed a chronic pyelonephritic kidney with multiple parenchymal abscess cavities and papillary necrosis. Papillary tissue slough filled the pelvocalyceal system and accounted for pelvic outlet obstruction. The perinephric fat was indurated and

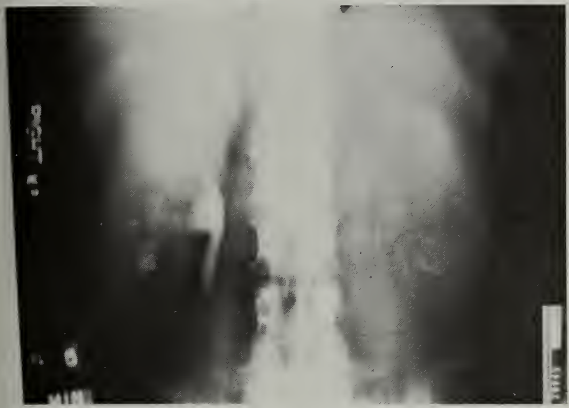

Figure 1

IVP demonstrates a left hydronephrotic kidney with filling defects of pyelo-calyceal tree.

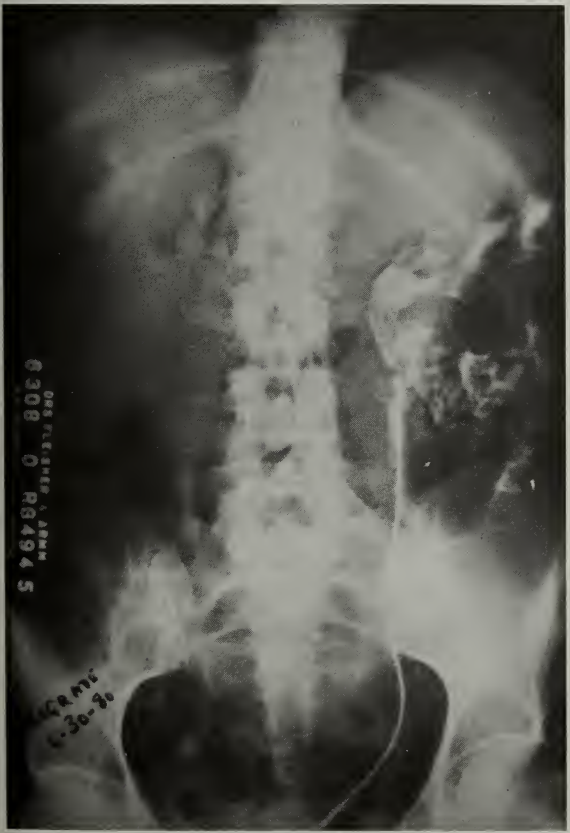

Figure 2

Retrograde pyelogram shows contrast filling of transverse-descending colon (nephro-colic fistulization).

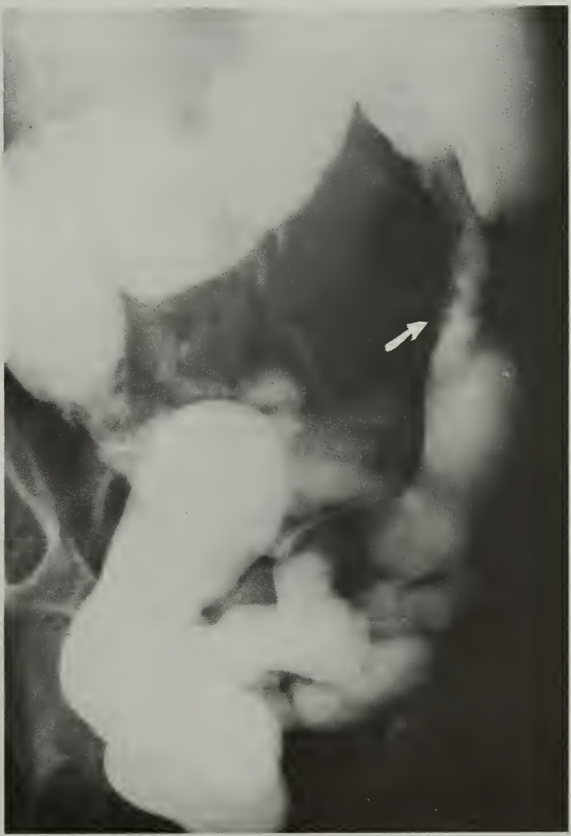

Figure 3

Barium enema reveals fixed, narrowed lumen segment (arrow) of descending colon.

histologically showed fat necrosis and chronic inflammation. The sinus tract opening was identified in the specimen of splenic flexure colon - no carcinoma was noted; liver biopsy confirmed cirrhosis.

Discussion

Fistulization between the urinary tract and alimentary system is uncommon. Vesical - enteric and ureteral - enteric fistulae have developed associated with inflammatory bowel disease such as Crohn's disease and sigmoid diverticulitis. Rectal perforation with bladder carcinoma has also been documented. However, renal involvement is rare. In a review of 92 renal cases by Bisrada, 59 involved fistulization with anteriorly-located large bowel.[4] The second most common communicating tract was with the duodenum.[5] The *nephrocolic fistula usually orginated from primary renal disease. Chronic inflammatory renal disease* associated with infection and/or renal stone obstruction is the prevailing etiological factor.[1,6] Renal tuberculosis was a common cause earlier in the century. Other less common pathological processes such as carcinoma or trauma have been documented. Fetter and Varmo described fistula development from an eroding renal pelvis squamous cell carcinoma[3] and Kempel documented a case of hypernephroma. Penetrating renal trauma cases continue to accumulate.

Nephrocolic fistulae originating from colonic pathology are quite rare.[4] Brust, et al described a case of infiltrating primary colon carcinoma with pericolic abscess formation.[2] Husted reported on a case with ruptured colon diverticulitis.[7] Underwood suggests that bowel disease will only produce a fistula if there is pre-existing chronic renal disease.[6]

Renal infection is usually localized by the enveloping para-renal fat, Gerota's fascia and perirenal fat. Only a thin alveolar tissue separates the posterior border of the ascending or descending colon from the retroperitoneal cavity (the posterior peritoneum covers just the anterior and lateral walls of the colon).[7] The pathogenesis for development of fistulization appears to be the progression of the renal parenchymal inflammation to a *perinephritis* with subsequent *fat necrosis and atrophy of the perinephric fat.*[6, 9] Thus the major anatomical barrier between kidney and colon becomes sparse, setting the stage for communication.

The diagnosis is usually made by retrograde pyelography or barium enema study. The latter has a higher positive diagnostic yield owing to a higher mean pressure in colon compared to a renal collecting system. This is analogous to the situation with gastrocolic fistula, where barium enema is diagnostically superior to UGI because of similar pressure considerations. In nephrocolic fistula the involved kidney usually has poor excretory function on IVP owing to chronic renal disease, whereupon positive yield in demonstrating the fistula is less with this radiological tool.[2]

Untreated nephrocolic disease will present with repeated pyelonephritis bouts and downhill clinical course. Treatment is invariably surgical.[4, 8] Fistulectomy with nephrectomy is the usual procedure. The colonic defect is closed or segmental colon resection performed.[4]

Renal conservation has been attempted when prominent contralateral disease exists and in selected penetrating trauma cases diagnosed early.[4]

Case Summary

This patient manifested recurrent chronic left pyelonephritis and developed the severe sequelae of papillary necrosis (necrotizing pyelonephritis) with renal abscess formation. Papillary tissue slough with *obstruction* of the renal pelvis outlet only aggravated the infectious process of the kidney. An abscess developed between the renal hilus and colon.

The combination of a perinephritic process with abscess formation, and obstructive hydronephrosis explains the reno-colic fistula formation.

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Important Advances in Clinical Medicine

Epitomes of Progress—Allergy

Diseases Associated With High Levels of Immunoglobulin E

Although not measuring specific antibodies, the finding of an elevated serum level of total immunoglobulin E (IgE) of greater than 50 IU per ml may have diagnostic and therapeutic implications. For example, IgE levels greater than 400 IU per ml are found in more than 75 percent of patients with atopic dermatitis. The levels tend to be even higher with more severe disease or with coexistent asthma. Modestly elevated IgE levels have also been reported in conjunction with other dermatologic conditions such as neurodermatitis, contact dermatitis, dyshidrotic dermatitis, psoriasis, urticaria, alopecia areata and burns.

Although modestly elevated IgE levels are often found in patients with extrinsic asthma and are sometimes observed in patients with allergic rhinitis without asthma or eczema, levels found in these patients overlap those found in patients with nonatopic nasal and chest symptoms. Consequently, the total serum IgE level by itself does not reliably differentiate between allergic and non-allergic respiratory symptoms. Total serum IgE levels of less than 50 IU per ml do not exclude demonstrable specific IgE in specific patients with rhinitis, asthma or eczema.

Serum IgE levels greater than 500 IU per ml are characteristically found in patients with active helminthic infections involving organisms with a prominent tissue phase, such as schistosomiasis, filariasis, echinococcosis, strongyloidiasis, ascariasis, hookworm disease and trichinosis. IgE levels greater than 1,000 IU per ml are almost always found in patients with allergic bronchopulmonary aspergillosis, where the level of total serum IgE correlates with the activity of the disease. The IgE level may rise before a clinically defined exacerbation and subsequently fall with appropriate treatment.

Elevated serum IgE levels have also been reported in certain patients with Churg-Strauss syndrome, Wegener's granulomatosis, chronic eosinophilic pneumonia, Hodgkin's disease, sporadic bronchiolitis, childhood renal disease with proteinuria, and the hypereosinophilic syndrome. The significance of the elevated IgE levels in the development of these illnesses is largely unknown. However, in the hypereosinophilic syndrome, patients with elevated IgE levels tend to possess fewer leukemic markers, are more responsive to corticosteroid therapy and have a better prognosis.

A syndrome has been recently defined which includes these characteristics: eczema, susceptibility to recurrent cutaneous and respiratory staphylococcal infections, a neutrophil chemotactic defect in autologous serum, variable T cell dysfunction, and substantially elevated levels of IgE (usually greater than 5,000 IU per ml). Elevated IgE levels have also been found occasionally in patients with other immunodeficiency disorders such as DiGeorge's syndrome, Nezelof's syndrome and chronic granulomatous disease. The highest levels of circulating IgE are found, however, in those rare patients with IgE myeloma.

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Allergic Interstitial Nephritis

More than 300 cases of drug-induced allergic interstitial nephritis have been reported, constituting 3 percent to 8 percent of all cases of acute renal failure. The drug most often responsible for this disease is methicillin although several other drugs have produced a similar allergic reaction.

The onset of symptoms is usually sudden, with evidence of renal impairment or frank renal failure occurring five days to five weeks after first administration of the drug. Oliguria with protein and cells in the urinary sediment is accompanied by rash, fever and arthralgias. Eosinophilia in blood and urine and increased levels of serum immunoglobulin E (IgE) are typical but are not found in all cases. The diagnosis is most often missed when the reaction complicates preexisting renal disease.

If the disease has been caused by administration of a drug, there is usually prompt remission of symptoms and signs when administration is discontinued. Often, however, the diagnosis is not suspected until after a renal biopsy has been done, which shows tubular interstitial edema and a patchy infiltrate of lymphocytes, plasma cells and eosinophils in the absence of significant glomerular or vascular disease. Recently, Linton and associates have shown that gallium citrate scintigraphy of the kidneys produces a substantial uptake of the isotope, which resolves in six weeks after the offending drug is withdrawn. The only other disease showing similar intense uptake is minimal change nephrotic syndrome, but usually this can be differentiated from allergic interstitial nephritis on clinical grounds. If this diagnostic technique is confirmed by further studies, it will lessen the need to do diagnostic renal biopsies.

The allergic nature of the disease is strongly suggested by the onset of fever, rash, joint symptoms and eosinophilia within days after the drug is given. Evidence suggests that several mechanisms may be operative. The eosinophilia and elevated IgE levels found in most cases suggest IgE-mediated disease, although wheal and erythema skin tests with the drugs in question are usually negative. The mononuclear cell infiltrate in the tubules is consistent with a cell-mediated process. The presence of immune complexes in renal tubules demonstrated by light or electron microscopy has been shown in only a few of the cases in which such complexes have been sought. In one patient, circulating antitubular basement membrane antibody was detected, suggesting that the drug might have triggered an autoimmune process in that case. No studies have been successful in producing the disease in animals so that information about immunopathogenesis must be inferred from further clinical studies.

Diagnosis requires a strong index of suspicion in any patient in whom renal insufficiency of sudden onset develops that cannot be explained on the basis of hypotension or sepsis. Although a renal biopsy can provide a definitive diagnosis, it is not necessary if clinical improvement occurs promptly after removal of the allergenic drug. Allergic interstitial nephritis should not be confused with analgesic nephropathy, a toxic reaction resulting in chronic tubular interstitial nephritis with tubular damage and fibrosis. This latter disease is associated with ingestion of high doses of analgesic drugs, most often phenacetin, and is found especially in drug abusers.

If allergic interstitial nephritis is diagnosed early, discontinuance of the drug will usually result in rapid recovery. Delay in diagnosis may necessitate hemodialysis because of severe renal damage. Reports of beneficial effects from corticosteroid therapy are difficult to evaluate because of inadequate controls, although such treatment is probably indicated if recovery is slow but uncomplicated by other preexisting renal disease. Readministration of the drug will invariably lead to recurrence of the problem and therefore must be avoided.

Abba I. Terr, MD

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Asthmogenic Drugs

Certain drugs may adversely affect asthma by exacerbating a previously quiescent asthmatic condition or increasing the severity of established asthma.

The beta-adrenergic blocking drugs propranolol (Inderal) and nadolol (Corgard), when administered in high doses, exacerbate asthma and, therefore, probably should be contraindicated in moderate to severe cases of the disease. In response to beta-blocking therapy, mild coughing and wheezing may reappear in patients whose childhood asthma had been asymptomatic for many years. In mildly asthmatic patients who require these drugs, treatment should be initiated with low doses, such as 5 to 10 mg per day and then slowly increased while monitoring for bronchial obstruction. Metaprolol (Lo-Pressor) more selectively blocks beta-1 (cardiotropic) receptors than beta-2 (bronchodilator) receptors, so the drug has less potential for exacerbating asthma. However, it still must be used with caution in cases of moderate to severe asthma.

Aspirin and other nonsteroidal anti-inflammatory drugs, such as indomethacin (Indocin) and ibuprofen (Motrin), are capable of producing asthmatic attacks in certain patients, presumably by their inhibition of prostaglandin synthesis. Up to 4 percent of asthmatic patients and up to 2 percent of patients with rhinitis will experience asthma following the ingestion of these drugs. The percentage is even higher in patients with nasal polyps and asthma. "Triad asthma" involves a combination of bronchial asthma, nasal polyps and aspirin sensitivity. However, asthma and rhinitis commonly precede aspirin sensitivity, often by many years. Some aspirin-sensitive asthmatic patients react similarly to tartrazine (FD & C No. 5), a yellow coloring agent found in foods and also used in certain medications.

Paradoxical bronchospasm may occur after the inhalation of sympathomimetic aerosols, especially isoproterenol, when the drug has been overused. The mechanism for this phenomenon, however, is unknown. Therapeutic inhalation of sodium cromolyn (Intal) and acetylcysteine (Mucomyst) has been reported to cause bronchospasm by direct bronchial irritation.

Pituitary snuff, pancreatin, and *Bacillus subtilis* enzymes in detergents can cause immunoglobulin E-mediated allergic asthma.

In summary, a detailed drug history is critical to evaluation in newly asthmatic patients and in those with an exacerbation of chronic asthma.

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Why Nocturnal Asthma?

Asthma is worse during the sleeping hours and its onset is often heralded by nocturnal coughing or wheezing. Factors attributed to this phenomenon of nocturnal asthma can be classified as mechanical (depressed pulmonary function in the supine position), allergic (bedroom dust, mite and feathers allergens), psychological (frightening dreams) and biochemical (decreased serum cortisol levels).

Recent studies have shred fresh light on this subject. An inherent circadian variation in airway resistance is accentuated in patients with asthma. When such patients are subjected to hourly tests of pulmonary function, the best values are found during the afternoon hours and the worst between 10:00 PM and 8:00 AM. The differences are statistically significant and are present even when the patient feels free of symptoms. No correlation has been found between nocturnal asthma and dream states (as measured by rapid eye movement patterns) or nocturnal changes in circulating corticosteroid levels. Furthermore, a steady state infusion of hydrocortisone fails to ablate the circadian rhythm of airway caliber.

Barnes and associates have made some provocative comparisons between biochemical changes and nocturnal asthma. In five subjects with asthma they found decreased plasma epinephrine and cyclic adenosine monophosphate levels at 4:00 AM versus 4:00 PM. Plasma histamine levels varied inversely, with the highest occurring during the early morning hours. Histamine levels did not rise comparably in subjects without asthma. Results of these studies imply that some breakdown in the homeostatic mechanism for controlling bronchomotor tone occurs in persons with asthma. Because antihistamines are not regularly effective against nocturnal asthma, other mediators of bronchoconstriction need to be determined before this aspect of asthma can be treated.

Harold S. Novey, MD

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Physical Urticarias: An Important Cause of Hives

The physical urticarias are a group of diseases in which certain stimuli applied to the skin cause hives and, occasionally, respiratory symptoms. At least seven distinct forms of dermal stimuli can cause urticaria: heat, cold, sunlight, trauma, prolonged pressure, vibration and water. Heat, cold and solar urticaria, however, each exist in more than one form. Physical urticarias are usually acquired conditions, although there are two rare inherited forms—familial cold urticaria and vibratory urticaria. Generalized heat urticaria (cholinergic urticaria) and trauma urticaria (dermatographism) are relatively common, the latter occurring in 1 percent to 5 percent of the population. The mechanisms of most physical urticarias are poorly understood, although mast cell mediators are clearly involved in several of the forms. There is no association with other atopic disease, but immunoglobulin E antibodies may play a role in dermatographism and in some forms of acquired cold urticaria and solar urticaria.

The diagnosis of physical urticaria can usually be made by taking a careful history and carrying out appropriate challenge tests. Laboratory tests are of use only in excluding other conditions. Localized heat urticaria and primary acquired cold urticaria can be determined by exposure of an extremity to hot water or an ice cube, respectively. Dermatographism can be determined by stroking the chest or back with a blunt object, and aquagenic urticaria can be detected by application of distilled water to the skin. Solar urticaria can be induced by exposure to sunlight or ultraviolet light of specified wavelengths and vibratory urticaria by skin massage or vibration. Familial cold urticaria differs from acquired cold urticaria by a delayed response to cold (negative ice cube test), positive family history and systemic findings (leukocytosis, fever and arthralgias) at the time of the urticaria. Pressure urticaria usually occurs after prolonged pressure, and the wheals characteristically develop in association with tight clothing, especially at the waistline, shoulders, ankles or feet.

Cholinergic urticaria has a distinctive appearance of tiny wheals on a large erythematous base over the trunk, and it may become generalized with resulting bronchospasm. It is thought to be due to a dermal hypersensitivity to released acetylcholine and, thus, is provoked by exercise or factors which induce sweating (such as stress, emotion or heat). The intradermal test with methacholine has not been shown to be reliable for diagnosis of this disease.

Hypovolemic shock can sometimes occur with physical urticarias if the stimulus is intense or occurs over a large surface area. This is seen most often in acquired cold urticaria when there is a sudden, diffuse exposure to cold such as when one plunges into cold water. Patients with recurrent urticaria or unexplained anaphylaxis should be questioned about physical urticarias, and provocative testing should be done when appropriate.

Treatment of physical urticarias consists of avoidance of the causative physical stimulus, and administration of antihistamine drugs. Solar urticaria may benefit from appropriate-spectrum sunscreens. Steroids are rarely required.

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Respiratory Symptoms in Children Whose Parents Smoke

Epidemiological studies have shown that upper and lower respiratory symptoms are more likely to occur in children whose parents smoke. Survey findings from the United States, Great Britain and Israel indicate that such symptoms occur most commonly if both parents smoke, less commonly if one parent smokes, and least often if there is no smoking in the household. It was found that in families in which one parent smoked, only smoking by the mother produced a significant effect on the child. The child's symptoms were directly correlated with the number of cigarettes smoked by the mother as well as with maternal respiratory symptoms, but not with birth weight, birth order, social class or family size.

The symptom most commonly observed in infants less than 1 year of age, whose parents smoke, is cough, particularly during daytime hours, whereas older children generally have persistent wheezing in addition to coughing. Dyspnea and sputum production as well as upper respiratory symptoms that suggest recurrent colds or allergic rhinitis occur at all ages. Pulmonary function is inversely correlated with cigarette consumption by parents. There is no increased incidence of croup or bronchiolitis.

Although a familial genetic susceptibility to respiratory illness cannot be ruled out by such studies, it is more likely that the well-recognized irritant properties of cigarette smoke ("passive smoking") are the major factor in producing these ailments. Findings of several studies show a positive correlation of respiratory symptoms in infants and children with respiratory symptoms in their parents who smoke, which suggests cross-infection within the household as a possible mechanism. However, it is more likely that symptoms of both the children and adults are a reflection of the amount of exposure to smoke.

In the diagnosis of chronic coughing in infants and persistent wheezing in children, parental smoking must be considered to avoid possible misdiagnosis as recurrent colds, hay fever, asthma, bronchitis or pneumonia.

Abba I. Terr, MD

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Child Abuse and Neglect: The Practitioner and the Law

JONATHAN B. STOLZENBERG, M.D. AND MARGO MAINE, M.A.

ABSTRACT—It has been found that health professionals are often hesitant to fulfill their legal and professional mandate to report cases of child abuse and neglect. This is often due to their being less than fully aware of the problem or the law. Many professionals have a number of misconceptions regarding the state law, procedures to follow, and the role of the Department of Children and Youth Services. These misconceptions interfere with effective fulfillment of professional, ethical and legal responsibility in these cases.

At the Newington Children's Hospital a Child Protection Team was formed. One of the team's mandates was to educate professionals concerning the law, reporting and evaluation procedures, and management of child abuse/neglect.

This paper describes the NCH Child Protection Team and its work, simplifies the law, and lists and "corrects" fifteen commonly held misconceptions concerning child abuse and neglect.

Child abuse/neglect is a complex psycho-social phenomenon which often results in chronic disabilities in its victims. These disabilities include intellectual limitation, motor damage, speech and language impairments, and long-term psychological problems.[1,2,3] It easily becomes a multigenerational cycle which is difficult to change and is sometimes ignored by professionals who, although mandated by state statutes to report such cases, either are not cognizant of the law or are reluctant to become involved due to misconceptions regarding child abuse/neglect.

At Newington Children's Hospital a Child Protection Team (CPT)[4,5] was organized in the fall of 1980 to identify and manage cases of child abuse/neglect and to educate the entire staff regarding the law, the dynamics of the problem and evaluative process, and the treatment needs of abused/neglected children and their families. It soon became evident that a very clear and concise procedure was needed to assure proper identification and management of such cases. The initial work of the team was to develop a sound and workable procedure for identification, referral and management of child abuse/neglect and to make the staff aware of this new procedure. (See Table I) Due to the complicated nature of child abuse/neglect, it was clear that a multidisciplinary team was needed. (See Table II)

The Child Protection Team at Newington Children's Hospital consists of a pediatrician-medical director, a social worker-coordinator, various social service staff members, a psychologist, a clinical nurse specialist, an administrative assistant, an attorney available for consultation, a consulting child psychiatrist, and a hospital administrator. The team meets regularly to monitor child abuse/neglect cases reported within the hospital, to serve as a resource to staff who are considering referral to the State of Connecticut Department of Children and Youth Services (DCYS), and to conduct inservice staff education.*

The team became aware of some relatively consistent misconceptions in regard to child abuse/neglect. These misconceptions were encountered across a broad spectrum of hospital staff including physicians, social workers, and nurses whose primary responsibilities include identification of child abuse/neglect. Some of the misconceptions relate to the law and the function of DCYS., whereas others concern the etiology and dynamics of child abuse/neglect. As a result, fifteen

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* Since the CPT began its work it has recorded and discussed cases at the rate of one per week.

Table I

REVIEW OF HOSPITAL-D.C.Y.S. POLICY/PROCEDURES

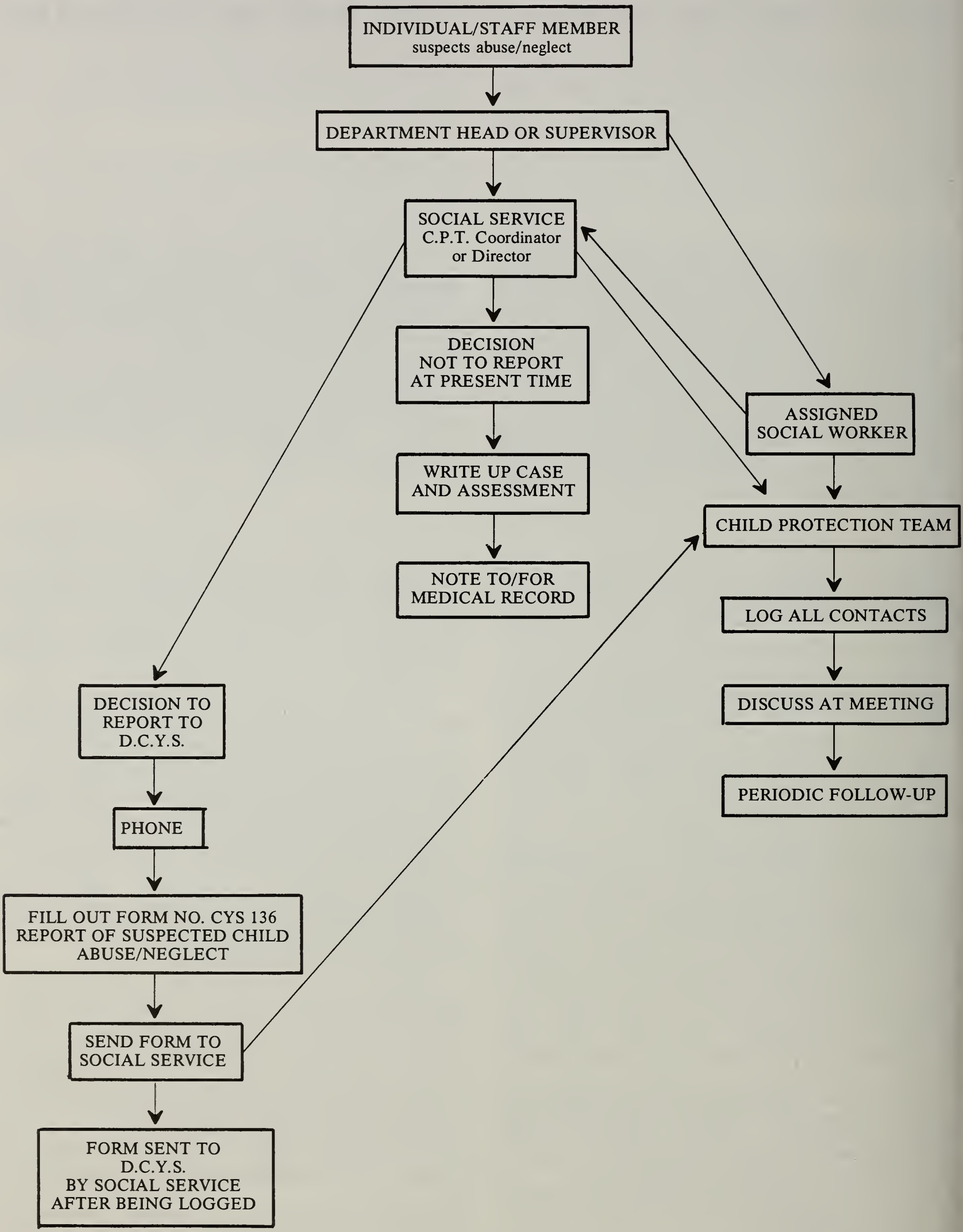
INDIVIDUAL/STAFF MEMBER
suspects abuse/neglect
DEPARTMENT HEAD OR SUPERVISOR
SOCIAL SERVICE
C.P.T. Coordinator
or Director
DECISION
NOT TO REPORT
AT PRESENT TIME
WRITE UP CASE
AND ASSESSMENT
NOTE TO/FOR
MEDICAL RECORD
ASSIGNED
SOCIAL WORKER
CHILD PROTECTION TEAM
LOG ALL CONTACTS
DISCUSS AT MEETING
PERIODIC FOLLOW-UP
DECISION TO
REPORT TO
D.C.Y.S.
PHONE
FILL OUT FORM NO. CYS 136
REPORT OF SUSPECTED CHILD
ABUSE/NEGLECT
SEND FORM TO
SOCIAL SERVICE
FORM SENT TO
D.C.Y.S.
BY SOCIAL SERVICE
AFTER BEING LOGGED

Table II

NEWINGTON CHILDREN'S HOSPITAL POLICY ON CHILD ABUSE, NEGLECT, AND CHILDREN AT RISK

In accordance with Connecticut General Statutes, Chapter 301, Section 17-38a, any cases of suspected child abuse, neglect, or at risk situation must be reported to the Department of Children and Youth Services. Reporting is mandatory for physicians and other persons involved in health care, and for other providers of service including educators and law enforcement officers. Failure to report may be subject to a fine. Coordination of reporting, investigation and documentation of child abuse, neglect or at risk situations shall be carried out by the Newington Children's Hospital Child Protection Team with the cooperation of those Newington Children's Hospital staff members directly involved with care.

Policy 202.6
2/6/81

Table III

CHILD ABUSE REPORTING MADE SIMPLE

Barbara J. Ruhe, J.D.

Child Abuse statutes cover children to age 18. Child Abuse is non-accidental physical injury and neglect which includes emotional neglect. [C.G.S. §46b-120—C.G.S. §17-38a (b)]

Persons who care for children are listed as mandated reported in the statute. [C.G.S. §317-38a (b)]. A person who is a mandated reporter and does not report child abuse can be fined. [C.G.S. §17-38a (b)]. A person who reports child abuse in good faith is immune from any liability. [C.G.S. §17-38a (b)].

A report of child abuse can be made to D.C.Y.S. during normal business hours, to Careline (800) 842-2288 during other hours, and to the state or local police. An oral report must be followed by a written report within 72 hours. [C.G.S. §17-38a (b)]. The report should contain the child's name, address, age, nature injuries or abuse, name and address of parents, and other information that might be useful.

A physician suspecting abuse after advising the parents can have the child held by a hospital for 96 hours, during which D.C.Y.S. can investigate the situation and/or file a neglect petition seeking temporary custody.

common misconceptions regarding child abuse/neglect were identified and "corrected" based on current Connecticut General Statutes Concerning the Protection of Children, Chapter 301, Sec. 17-38a. In addition, the laws regarding child abuse/neglect have been summarized to clarify the essential mandates. (See Table III) This summary and the references in the explanation of the fifteen misconceptions are based on current state law[6] (June 1981) and are subject to change based on continuing legislative action. The delineation of common misconceptions shared by professionals in regard to child abuse/neglect has led to greater awareness and improved identification and treatment of such cases.

The material printed here is a part of a comprehensive Child Protection Team Handbook which is distributed to all staff and residents at Newington Children's Hospital.

Misconceptions About Child Abuse

1. *Misconception:* Child abuse means only that the child has been physically beaten.
   Correction: Connecticut law covers physical abuse, neglect, maltreatment, sexual abuse, suspected abuse, suspected neglect, uncared for and at risk situations.
   Explanation: The Connecticut law requires the reporting of physical abuse, suspected physical abuse, maltreatment (including malnutrition, sexual molestation, deprivation of necessities, emotional maltreatment, cruel punishment), or neglect (child who has been abandoned; is being denied proper care educationally, physically, emotionally, or morally: is living under conditions injurious to his/her wellbeing; child's home cannot provide the specialized care his/her physical, emotional, or mental condition necessitates).
2. *Misconception:* By reporting a case we are saying the parents are unfit and that the Department of Child and Youth Services should take the child away.
   Correction: The intent of the law is to help families.
   Explanation: A report to protective services results in an investigation of the family and home. If the youngster is found to be in physical danger, immediate removal ensues. However, if there is no immediate danger the DCYS agent will help the family to find the appropriate supplementary services and the child will be supervised by the DCYS; if after a reasonable amount of time it is determined that the family cannot meet the child's needs, DCYS may file for commitment to the DCYS.

   The purpose of DCYS is "to protect children whose health and welfare may be adversely affected through injury and neglect; to strengthen the family and to make the home safe for children by enhancing the parental capacity for good child care; to provide a temporary or permanent nurturing and safe environment for children when necessary."

   This is done through requiring the reporting of child abuse, the investigation of such reports and the provision of services as necessary after this investigation.
3. *Misconception:* Only doctors can report child abuse.
   Correction: Anyone can and many professionals are mandated to do so.
   Explanation: In addition to physicians, residents, and interns, any registered nurse or licensed practical nurse, medical examiner, dentist, psychologist, school teacher, principal, guidance counselor, social worker, police officer, clergyman, osteopath, optometrist, chiropractor, podiatrist, any person caring for children in a day care center or any mental health professional "who has reasonable cause to suspect or believe that any child under age

eighteen" has been abused, maltreated, or neglected, must report. If a person is part of an institution, the person should notify the appropriate designated agent within the institution of such a report.

Any person who is required by law to report but fails to do so can be fined $500.00 in the State of Connecticut.

Any person other than those enumerated above may also report directly to DCYS if he/she suspects child abuse or neglect.

4. *Misconceptions:* If you report parents for child abuse or neglect, they may sue you.
Correction: Connecticut law protects the reporters of child abuse.
Explanation: Connecticut law states, "any person, institution, or agency which, in good faith, makes the report required by this section shall be immune from any liability, civil or criminal, which might otherwise be incurred or imposed and shall have the same immunity with respect to any judicial proceeding which results from such report."

5. *Misconception:* We cannot hold a child to protect him/her without a court order.
Correction: We can evoke a 96 hour hold if we believe the child is at risk for abuse or neglect.
Explanation: Connecticut law states that physician who suspects abuse has the right to keep the youngster in the custody of a hospital for 96 hours, with or without parental permission. During that time DCYS is contacted to initiate their investigation and orders for temporary custody may be obtained if the home is not a safe environment for the child.

6. *Misconception:* The law protects children only from abuse by their parents.
Correction: The law protects children from abuse by anyone who is responsible or who is given access to the child by the responsible person.
Explanation: Connecticut law covers any "person responsible for such child's or youth's health, welfare, or care" and any "person given access to such child by such responsible person."

This is particularly important in cases of sexual abuse perpetrated with the parents knowledge or collusion by someone other than the parent.

7. *Misconception:* Abusive, neglectful parents are incorrigible criminals who should be jailed.
Correction: Many abusive parents were abused as children and have to learn about appropriate parenting.
Explanation: Abusive parents usually have had traumatic childhoods in families where physical violence was prevalent. Therefore, they carry their own emotional scars and are in need of treatment themselves. In addition, they have not had appropriate models for parenting and need to learn basic skills regarding parent-child communication and behavior management.

Parent Aid Programs and Parents Annonymous are designed to meet such needs.

8. *Misconception:* Parents have limited rights once the DCYS is involved.
Correction: Parents have many opportunities to exercise their rights.
Explanation: The point of DCYS involvement is to help the family function more adaptively. If the youngster is in immediate danger, the child will be removed, with or without parental consent. However, parents may be represented by legal counsel at the hearings which follow this; they may also bring in witnesses and they have the right to remain silent if they choose to do so. In addition, they can appeal any decision made by the court. Orders of temporary custody are invoked rarely and unless they are in immediate physical danger, children often remain in the home until commitment orders are instituted.

9. *Misconception:* There is no point in reporting child abuse; the DCYS does not do anything.
Correction: The DCYS must immediately investigate the charges and make recommendations.
Explanation: If the DCYS investigation finds a child abused, the DCYS worker must protect the child and "other children similarly situated." This may include immediate removal if there is serious physical injury or immediate physical danger. This removal is for 96 hours, during which time the DCYS worker must file a petition in Superior Court or the child will be returned to the home at the end of that 96 hour period. If it is felt that the family can care for the child properly, supervised custody is granted. If this is not possible, commitment is pursued. The court may order the child, parents, guardian, and anyone accused of abusing the child, to be evaluated medically, psychologically, and psychiatrically. The child has a court attorney to represent his/her interest and to be guardian ad litem during these court proceedings.

10. *Misconception:* If you report child abuse, you will lose your rapport and relationship with the family.
Correction: If it is explained to the family appropriately, they will usually understand that they need help.

11. *Misconception:* The DCYS will be seen as the enemy.
Correction: If the referring professional explains it in a positive manner, the family will probably welcome the assistance.
Explanation: Many times parents want help and want these services, which the DCYS can provide to them. Sometimes the involvement of the DCYS

may actually help the family to forget the guilt which they feel and enable them to enter treatment which they may have desired for a long period of time.

12. *Misconception:* The DCYS is eager to take children away.
Correction: The function of the DCYS is to help the family and to remove the child only if it is absolutely necessary.
Explanation: There are limited resources available which are appropriate placement alternatives for abused children. Cognizant of this and being aware of the intent of the laws, the DCYS workers attempt to keep families intact and to help them function more adaptively.

13. *Misconception:* Commitment is forever.
Correction: Commitment is for two years.
Explanation: At the end of two years, the DCYS can petition the Court for continued commitment or the children are automatically returned to their families. If the family has not made progress, the DCYS may choose to petition for termination of parental rights, which is permanent. The child would then become eligible for adoption. However, the parents can petition the Court for reconsideration of the custody decision within six months after the original commitment decision. In the past, commitment in the State of Connecticut has been an open ended policy, but recent changes in the laws have made this time limited.

14. *Misconception:* Commitment results in a long series of temporary placements for the child.
Correction: Early in each commitment period, a permanency plan is developed for the child, according to mandate of DCYS.
Explanation: Recently a volunteer program has developed in the Juvenile Court in Hartford in which volunteers follow cases of children who are placed in the custody of the DCYS. They are involved in monitoring the child's placement and disposition of the child's case, to be sure that the youngster's needs do not get lost in the shuffle of the many cases which the court addresses.

15. *Misconception:* If you know of a case and you are not directly involved in it, you are free from responsibility of reporting child abuse.
Correction: You are liable according to Connecticut law to report any case in which you have reasonable cause to suspect or believe that the youngster has been abused, neglected, maltreated, or uncared for.

Furthermore, if you do not make such a report you are subject to a fine of $500.

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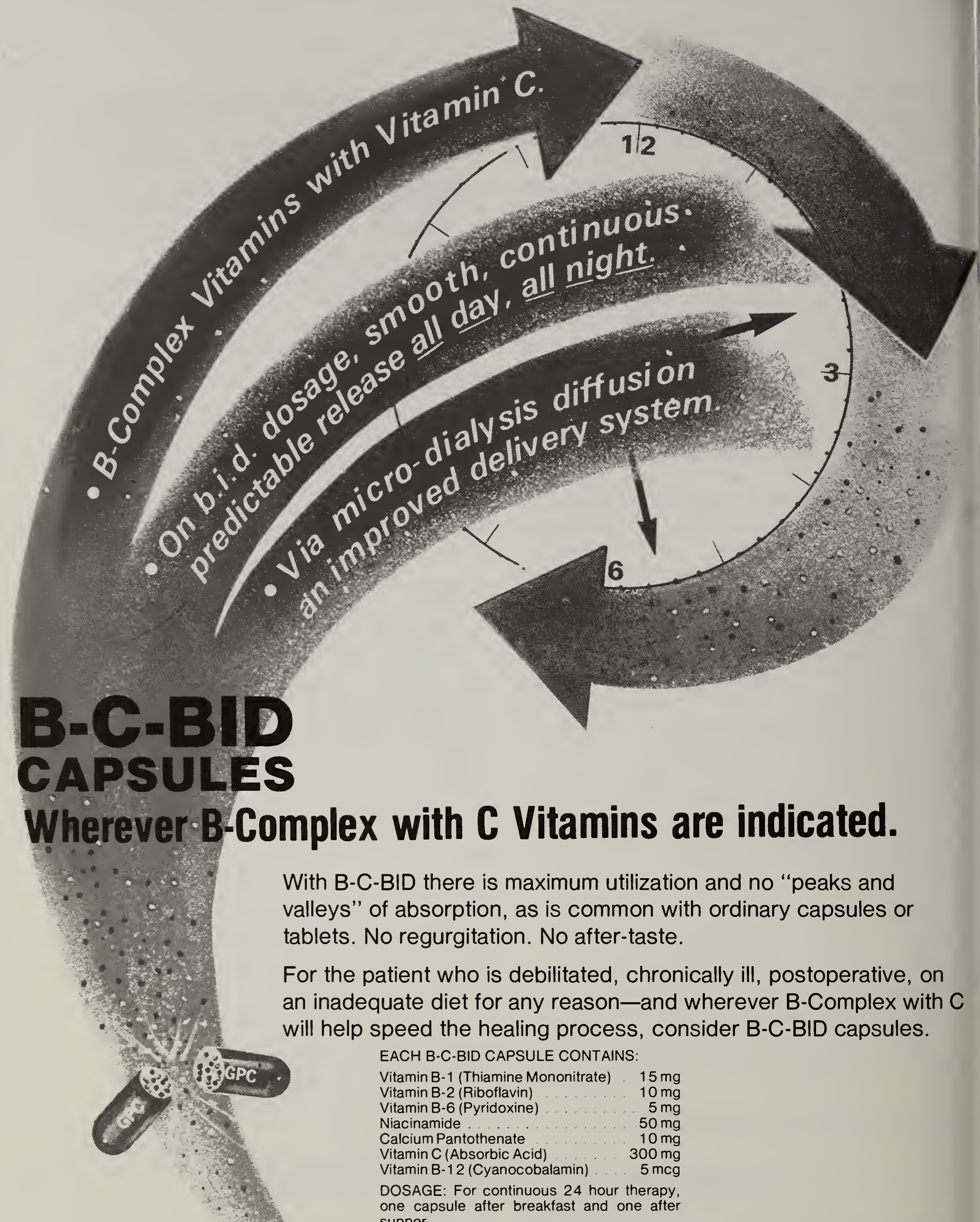
The desire to take medicine is one feature which distinguishes man, the animal, from his fellow creatures.

—Sir William Osler.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The Joint Commission on Accreditation of Hospitals: Relations with the Practicing Physician—Past, Present and Future

JCAH and the Practicing Physician: Historical Relationships and Current Issues

(First of two parts)

JOHN H. WESTERMAN

Introduction

Voluntary accreditation has been a significant factor in shaping the cost and quality of health care in the United States, and the medical profession has been the driving force in developing the conditions of hospital medical practice.

In 1912, the Clinical Congress of Surgeons of North America adopted a resolution authorizing its president to appoint a committee to study "some system of standardization of hospital equipment and hospital work."[1] This ultimately led the American College of Surgeons (ACS) to found the Program of Hospital Accreditation—later to become the Joint Commission on Accreditation of Hospitals (JCAH)—which initiated its first surveys in 1918.

Although the physician role in establishing this process, namely developing, debating and implementing the standards, has been one of the least publicized and least understood movements in the development of the U.S. health delivery system, the major themes guiding physician development of standards and the hospital-medical staff survey process can provide useful insights and guidance for the future of voluntary accreditation. These major themes have been embodied in the statements of mission and purpose of JCAH and will be discussed in the first part of this article, along with observations about the historical relationship between physicians and the JCAH. This will provide a framework within which to examine current issues and practices of JCAH from the point of view of the practicing physician.

The second part of this article will address criteria for the resolution of current and emerging issues, as well as probable outcomes of criteria application. A new framework for the identification and solution of future issues will be suggested.

Organization and Mission of JCAH

The JCAH is an independent, non-profit organization incorporated under Illinois law, whose policy is promulgated by its 21-member Board of Commissioners. The commissioners are appointed by five organizations: seven each by the American Hospital Association and the American Medical Association, three each by the American College of Physicians and the American College of Surgeons, and one by the American Dental Association. One public member has been authorized but not yet selected. The Board of Commissioners is a non-instructed delegation and acts independently, while sitting as the governing body of the JCAH.

As stated in Article I of the Bylaws of JCAH, dated August 13, 1977, the purposes of the corporation include establishing standards for the operation of hospitals and other health-related facilities and services; conducting survey and accreditation programs that will encourage voluntary: (1) promotion of high-quality patient care; (2) application of basic principles of physical plant safety and maintenance and efficient organization and administration, and (3) maintenance of essential services through the coordinated effort of the organized staffs and governing bodies; recognizing compliance with standards by issuing certificates of accreditation; and implementing programs of education, research and publication.[2] JCAH standards are best known as applied to the delivery of health services in institutional settings, particularly hospitals.

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In all, the JCAH is a remarkable organization. It provides a forum for health professionals to determine standards for the environment and delivery of patient care, and to design means for assessing the extent to which these standards have been met. Leaders in the health field are at the cutting edge of change in a turbulent environment, characterized by innovation and constant introduction of advanced technology. At the same time, these leaders must cope with the dilemmas of balancing change against significant improvement, the desirable against the practical. The dynamics of the decision-making process bring with it all the joy, tension and high drama of concerned professionals trying to make the world of risk less risky, trying to improve patient care when the probability of success is not always known.

In this process, all of the characteristics of the American decision-making style are played out. A quest for improvement through proposed change is paired with practical considerations of widespread compliance; one profession's pleasure with a proposal may be another profession's cause for concern. Nevertheless, out of this process of compromise, trade-offs, negotiations and judicious balancing of risks and benefits, optimal achievable standards emerge. Once adopted, all parties involved close ranks around the standards to make them work.

The Role of the Practicing Physician in the History of JCAH: Dynamics of Success

The health field has been beset by a lack of common purpose and the failure to achieve cooperation around issues of personal prerogatives. What makes JCAH work? As a partial answer, we could say that what makes it work is a thorough periodic review of all standards and the accrediting process. For a more complete understanding of JCAH success, however, we must look to its past.

There is little in the published literature on the history of JCAH, but a seminal article by Dr. Carl P. Schlicke provides some important insights into the origins and shaping events of the corporation.[3] According to Schlicke, JCAH got off to a shaky start. In 1918, only 89 of the 671 surveyed hospitals with over 100 beds could meet "The Minimum Standard," which addressed organization and membership of medical staff (including competence and ethics); medical staff rules, regulations and policies; medical records; and minimum diagnostic and therapeutic facilities. This somewhat unsettling outcome caught the attention of leaders in the industry. Rather than risk the publicity attendant to putting 582 hospitals on the defensive, the pilot results were burned in the basement of the Waldorf Astoria by the ACS Regents. Some important lessons had been learned.

One lesson was that the accreditation program could not be an end in itself but should serve the public by enlisting the participation and support of physicians and hospitals. A second lesson was that hospital and physician participation required a strong educational component. Finally, the concepts of voluntary accreditation were applicable to a range of health services.

In 1937, the American Foundation published a two-volume study on American medicine and noted that, "At present, hospital supervision, so far as it exists, lies on the governmental side, in licensure requirements, variable and unequal in different states; and, on the professional side, in the entire extra-legal standardization work of the American College of Surgeons."[4] Indeed, an officer of the College of Surgeons is attributed with the statement that higher licensing standards should be looked to "as a means of preventing the establishment of hospitals which owe their existence not to actual community need but to mercenary desires, spite, prejudice, or irregular practices."[5]

The ACS minimum standards existing in 1937 were the same as in 1917, focusing on documentation, patient-care and a functioning, organized medical staff even though 2523 hospitals had been admitted by them to the approved list. The American Foundation Study recognized the need to upgrade minimal standards, but it was not until the early 1960s that the standards shifted from "minimal" to "optimal achievable."[6]

In 1947 a new report was issued by the Commission on Hospital Care in the United States. This report included a brief description of the Hospital Standardization by the American College of Surgeons[7] and recommended that "hospitals of all types, regardless of size" should comply with this standardization program. Even with this recognition, however, the ACS program was not envisioned as the powerhouse it was soon to become.

The ACS retained sole responsibility for the accreditation process until 1951 when the size and expense of the program became prohibitive. At that point the JCAH was incorporated with ACS, AMA, AHA and the Canadian Hospital Association (CHA withdrew in 1959). In 1966 the accreditation scope expanded to include long-term care and by 1975 councils were established under memorandums of agreement for long-term care, mental retardation-developmental disabilities, psychiatric facilities, and ambulatory care. Today the 1981 Accreditation Manual for Hospitals consists of 218 pages; in addition, JCAH manuals exist for several other accreditation programs.

It is important to emphasize that few realized the potential JCAH would achieve. Major reports from 1937 to 1976 covered the issue of quality of care standards for hospitals and consumer protection with only a passing reference to "the good work" of JCAH in this area. The government, at all levels, displayed little interest in the process until the mid-1960s; third-party payers and other public policy groups displayed a similar indifference to the survey work and there was little involvement of the academic community.

In essence, the JCAH process has worked because the standards have addressed significant questions of patient-care; the patient and provider have believed in the accreditation process and the corporation has been flexible enough to keep up with sophisticated technology, quality issues and changes in practice. But systems don't deserve to be preserved simply because of past usefulness and historically unique characteristics; they should be preserved only if they fit into the context of societal goals. Practitioners and the public have been, and will continue to be, the judge of the value of voluntary accreditation and must recognize that there is a world of difference between voluntary optimal achievable standards and minimum government regulations. The voluntary accreditation process was not initiated by the fainthearted, nor will it be likely to be preserved by the uninvolved and uncommitted. Schlicke put it succinctly when he said, "If the concept of self-regulation is untenable, the very concept of self-government is at stake."[8]

JCAH Operations from the Practicing Physician's Point of View

In contrast to the origins of the Professional Standards Review Organization (PSRO), which was created through federal legislation,[9] JCAH standards and the accompanying survey process originated with practitioners. This difference in origin may explain the acceptance of JCAH by the practicing community and the ambivalence of the practicing community towards PSROs.

From the practitioner's point of view, a major purpose of JCAH standards is to create an environment for the practice of high-quality medicine. Thus, in consideration for the burdensome obligations of documentation of patient care transactions, the practitioner is ensured an institution with quality patient support systems.

Most complaints about accreditation result from interactions during the survey process. It is sometimes perceived that surveyors do not make sufficient effort to understand the often-individualized nature of an institution's response to a particular standard. There is also a perception that unwelcome new standards, or their interpretations, are the result of government pressure, and thus jeopardize the voluntary nature of the process.

For the most part, however, individual practitioners are content to leave the monitoring of the accreditation process to their professional organizations. Professional societies take the creation of standards very seriously as major issues of professional jurisdiction are worked out in the accreditation process. For example, the definition of MD-nonMD practices are addressed and requirements for the elements and functions of major diagnostic and therapeutic services are outlined. These kinds of issues go to the essence of the authority and responsibility for the delivery of personal health services.

Current Issues

Given the high stakes of accreditation outcomes, it is not surprising that JCAH is constantly faced with a set of issues at the interface of practice and accreditation. While the issues vary from year to year, they generally have origin in one or more of five basic considerations:

1. **What are the objectives of standards?**
   Any accreditation process runs the risk of yielding to pressure for change in standards without evaluating that pressure against a set of organizational objectives for standard setting. Changes in standards do not in themselves present a problem; ready acceptance of change is the norm and is probably a reflection of the degree of change physicians incorporate into their everyday practice. Issues arise only when practitioners do not understand the reasons for change or when changes seem to be outside the previous practices governing change.
2. **What are the principles governing standards development?**
   Even when the objectives for setting standards are understood, objections to change arise if it is perceived that there are no development principles or that the principles have not been followed. For example, practitioners are often concerned about the degree of specificity required to comply with a standard; some may object that the requirement is too specific while others may complain that the level of specificity is insufficient to guide compliance. The real problem is that one can't debate change very well until the change can be viewed against explicit principles for standards development.
3. **What is the consultative process in standards development?**
   This question is based on the belief that even if objectives and principles in standards development were followed, interested groups might not always have a chance to comment on proposed language. This issue is often alleged in any change that is not to a particular group's liking. JCAH must meet the test of (a) having a consultative system, and (b) making sure all parties concerned know how to use the system.
4. **How can the survey process be made more meaningful to the practitioner?**
   Tales of inappropriate actions by the surveyors during the actual survey are part of the institutional folklore in this country. Unfortunately, the bad experiences tend to be cumulative while the positive experiences tend to be transitory in the memories of the individuals involved. The

most common concern is that the survey process does not distinguish between the important and less important functions of voluntary accreditation. The survey visit is the primary form of JCAH personal contact with practitioners; therefore, the importance of the quality of the contact cannot be overestimated.

5. How can voluntary accreditation best reconcile the constantly changing skills and expectations among the health providers?
   This issue goes to the heart of jurisdictional battles with potential fiscal implications among highly trained and talented health providers. Who does what for the patient? Under what conditions? are the grist for everyday operational difficulties. The JCAH is reluctantly joined in this debate through the promulgation of standards and surveying practices in this field.

While there are numerous other questions involving JCAH and the practitioner, most can be viewed in the context of one of the above five basic considerations. The second part of this article will deal with current solutions to these issues and will attempt to highlight some considerations for future JCAH-practitioner relationships.

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I here present the reader with a new sign which I have discovered for detecting diseases of the chest. This consists in the percussion of the human thorax, whereby, according to the character of the particular sounds thence elicited, an opinion is formed of the internal state of that cavity. In making public my discoveries respecting this matter I have been actuated neither by an itch for writing, nor a fondness for speculation, but by the desire of submitting to my brethren the fruits of seven years' observation and reflexion. In doing so, I have not been unconscious of the dangers I must encounter; since it has always been the fate of those who have illustrated or improved the arts and sciences by their discoveries to be beset by envy, malice, hatred, detraction and calumny. This, the common loss, I have chosen to undergo; but with the determination of refusing to everyone who is actuated by such motives as these all explanation of my doctrines. What I have written I have proved again and again, by the testimony of my own senses, and amid laborious and tedious exertions; still guarding, on all occasions, against the seductive influence of self-love.

—"On Percussion of the Chest," Leopold Auenbrugger, 1761.

Health Planning

JEROME K. FREEDMAN, M.D.

Among the members of our medical society, health planning and its practitioners are less than favorite subjects. We complain of the damage done to our patients, hospitals, quality of medical practice, and to ourselves by their stultifying regulations and overly cost-oriented activities. We believe fervently that they favor certain modes of practice over others and are certain that the individual practice mode is not one of the favored. As an organized group, our responses to the planning thrusts of recent years have been late, weak, negative and perhaps overly reliant on individual efforts. The Connecticut State Medical Society did not hire a person to supervise and monitor governmental and institutional planning activities until only a few years ago though a need had been demonstrable for some years. Many of us wished that health planning and planners would just disappear. Now we may be getting our wish fulfilled and this turn of events may really not be the cause for as much undiluted pleasure as it might seem.

Once upon a time Connecticut was renowned for such things as its technology, industry, productivity and Yankee ingenuity. Recently it is better known for its illiterate high school graduates, large social welfare programs, large unemployment numbers, heavy emphasis on governmental solutions to the problems faced by its citizens and by its leadership in the regulation of health care, ostensibly in the name of cost conservation, but in truth regulation of every aspect of the health industry the regulators could affect. "Running up the gallows steps so as not to keep the hangman waiting," as my dear friend Stuart Ragland, M.D., of Colebrook, is fond of saying, Connecticut (under—God protect us—a Republican administration) imposed upon itself the Commission on Hospitals and Health Care. Our state thereby spared the "Feds" the necessity of imposing a Certificate of Need agency on us when P.L. 93-641 was passed.

The law nonetheless did add the State Health Coordinating Council (SHCC) and its operating arm, the State Health Planning and Development Agency (SHPDA), and the five Health Systems Agencies (HSA). Their purpose was two fold. First, they were to control health costs whose governmental portions were escalating at rates unacceptably high to Congress and Statehouse, no matter that it was their legislation that had enlarged the entitlements and increased the demands for health services! The second openly stated purpose was to regulate the industry in preparation for the soon to come National Health System.

In Connecticut these programs were adopted and run with enthusiasm, with hostility toward all providers, with combative and adversary methods whenever possible, and with heavy controls from Washington, even of the allegedly independent and locally based, consumer-oriented HSAs. The regulators persist in allegations of great cost savings without damaging the providers. But though fighting in court and winning almost every time, the hospitals have been brought to the condition where in fiscal 1980 over half of them were running operating deficits.

Physicians have been unscathed, at least on the surface. The mandatory Informed Consent regulations, initiated by state planners, were a good idea if for no other reason than that they caused all parties involved in prolmugating them to agree that no regulation could guarantee good communication between physician and patient.

It also provided an avenue among others for cooperation between the state hospital association and the medical society. And it emphasized something we all should be paying attention to. The shameful story of Connecticut's commitment to the poor is more germane in measuring the value of health planning. The reimbursements for the care of the poor have been intentionally, willfully and with forethought held down so far that today unless he has a lucrative practice to subsidize them, the average private practitioner finds himself increasingly pressured to unburden himself of this type of patient. Even if he accepts the poorly devised forms and the purposeful delays in payment to improve cash flow in Hartford, he is not recovering even his costs. More and more of the care of the poor is therefore shifting to institutional providers whose fees for the same services are, by statute, 150% over those

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JEROME K. FREEDMAN, M.D., Ophthalmologist, New Haven, Ct. Chairman, CSMS Committee on Statewide Medical Planning; Past President, Connecticut State Medical Society; Member, Board of Trustees Connecticut Hospital Association and Councilor, CSMS and New Haven County Medical Association.

of the private provider's! In their hostility toward the private practice of medicare, their favoring of institutions and HMOs, the planners have seen to it that the cost per unit of service is more expensive than it had to be or should have been.

The combined efforts of SHCC, SHPDA and HSAs have produced and promulgated an immense opus called the State Health Plan. Having personal experience with this document, as the Committee on Statewide Medical Planning critiqued it for the Connecticut State Medical Society, I can only say that it is an immense "wish list." It could have been created equally well, if a single representative of each special interest and each pressure group involved had been allowed to freely associate his ideal dreams of perfection. It, however, cost a fortune to produce, involved hundreds of thousands of man-hours of work at the HSAs, SHPDA and SHCC, and not one penny spent delivered health care to anyone. This general criticism has, indeed, been leveled at health planning in general.

Now there is a new national administration with strong ideas of changing federal to state and local control. Programmatic grants are being replaced by block grants, and the spending decisions will rest more and more with the states. In several years the block grants stop and the states will have to assume the burden of their own programs. The result is the terminal phasing out of the planning agencies, panicky resignations and much scurrying around to try to preserve jobs and power. One cannot be entirely unhappy at the demise of a system so inept that a recent task force studying the block grants could conclude that there are no data available to show the overlap in populations served by various programs. After all the millions of dollars poured into planning in this state over the years we don't know such a simple question's answer and the data doesn't exist. It simply boggles the mind. The reason for the non-existence of the data is that "The question was never asked," for this is what I was told by one of the people involved in the study. And since health planning is defined in terms of the identification of needed changes and the management of these changes, a more activist definition than many of us thought, there is some reason for happiness at the turn of events.

When the massive changes in philosophy of the Reagan Administration began to affect health care, the Committee on Statewide Medical Planning of CSMS began to look at the problems we would have to address. As one of our members, Dr. Roger Beck, said one night, "If there were no health planning, we would have to invent it." The committee agreed with this assessment. Perhaps we did not need the planning of the now defunct Regional Medical Program, which emphasized technology and institutions to the exclusion of the more humane aspects of medicine, the individual consumer and practioner, and their concerns and needs. Nor did we need the reaction to that overemphasis, the HSAs hostile to all providers, to most expertise, to the "establishment," and to the results of this sort of mind-set. We now have regulators, totally ignorant of what they regulate so they won't be "biased." We have professional decisions being made by people who hate the profession. On the other hand, we felt, as long as public efforts and monies are required to deliver health care, there will and there should be public accountability. We could not conceive of health care without a public sector. Some form of coordination of efforts, of priority, of decision-making, and the implementation of those decisions was going to be necessary. Of course, others were thinking along similar lines. Our Long Range Planning Committee wrote and has obtained the approval of the Council of the CSMS for a statement of our role and aims. We will support only the best quality of care because we are committed to excellence and because it is the most cost-effective in the long run, as was shown in the cost seminars run jointly by Connecticut State Medical Society and the Connecticut Hospital Association. We aim to be the advocates for our patients' best interests because too few speak for the patients and because what is best for them is usually best for us. Third we shall advocate maximum cost effectiveness in every mode and environment of health care, including the ones sometimes considered sacrosanct. And we shall point out diverse specific problems whose solutions are required for all the above. These include the necessity for wide availability of CT Scanners, the dire effects of the shortage of registered nurses and of extended care beds, the need for more diploma nursing schools, the need for physicians to see randomly selected copies of the hospital bills their patients receive. The list is admittedly incomplete.

Our ultimate aim is for Connecticut's physicians, through their professional society, to participate in health planning which is going to be required in allocating increasingly scarce resources, public and private, to give the best possible care for all our people. It must be admitted, that after all the talk of waste, of ripoffs, and of cheating, that there are the truly poor, the truly needy and ill, and handicapped and disabled, and that we physicians believe they are deserving of help. Whether the aims can be reached is another question. The residual hurts and suspicions of previously opposed groups have to be overcome and also the instinctive turf-protecting reflexes of vested interests. We have begun discussions with the governmental side of health planning; the initial meeting was at least polite and cordial if not immediately fruitful. While we may not succeed, at least we shall not later ask of ourselves where we were and why we did nothing and what we were thinking of. We shall try to be involved from the outset. This report is done to enlist your understanding and support.

Initiation of Voluntary, Locally Based Health Planning

AMERICAN MEDICAL ASSOCIATION

In response to Substitute Resolution 66 entitled "Repeal of Health Planning Laws", which called in part for the development of voluntary locally based health planning principles, the Council on Medical Service and its Ad Hoc Committee on Health Planning have developed a policy statement with principles for voluntary health planning. [This statement and principles are before the House of Delegates in a separate report at this session.]

The Council and its Ad Hoc Committee strongly believe that each community in cooperation with the local medical society should make its own decision as to whether a voluntary health planning program should be instituted. In an effort to assist those that do elect to develop programs of voluntary health planning, the following information has been prepared to provide suggestions as to (a) functions of a voluntary community-based health planning organization; (b) the medical society's role in voluntary health planning; (c) evaluation of the health planning program; and (d) options for funding a voluntary, community-based health planning effort.

Functions of a Voluntary Community Based Health Planning Organization

The primary responsibility of a health planning organization is the provision of effective, efficient planning services to the community or region served for purposes of:

(a) assisting in the improvement of the health status of residents of the area;
(b) providing assistance and support to health care institutions and entities in developing the appropriate mix of health care services;
(c) promoting the quality, availability, accessibility, and continuity of health care services at a cost consistent with these requirements;
(d) identifying unnecessary duplication of health services.

It is anticipated that, to fulfill these purposes, the activities of the organization could include the following:

1. Assembling and analyzing data concerning:
   (a) the number, type and location of the community's health resources including services, facilities and manpower;
   (b) patterns of utilization of health care services and resources;
   (c) the general health status of area residents.

Data acquisition should be directed toward existing resources whenever possible, and voluntary groups are encouraged to develop a regional data gathering process when needed. All data acquisition and release must respect patient and physician confidentiality requirements.

2. Identifying community health and medical needs and developing an overall health plan, with priorities, to meet these needs. This community plan should be accompanied by a statement of specific objectives with a timetable for implementation acceptable to those institutions and entities directly affected.
3. Serving as a technical resource to the health care segment of the community by:
   (a) providing data to assist internal institutional planning activities;
   (b) assisting in the development and promotion of health education and preventive health programs for the general public by various voluntary community agencies;
   (c) assisting, upon request, in the preparation of various public and private grant proposals in support of projects consistent with the objectives of the organization.
4. Serving as an advocate for the community whenever legislative or regulatory approval may be required to achieve objectives consistent with the overall health plan approved by the community.
5. Providing a forum for discussion of pertinent health issues at a community level and serving as a coordinator for change in addressing these issues.

This report of the AMA Council on Medical Services was filed by the House of Delegates of the AMA, June, 1981, Chicago, Illinois.

The Medical Society Role in Voluntary Health Planning

The medical society, at the state and local level, represents physicians regardless of practice setting or institutional affiliation. As medicine's representative in the community, the medical society is dedicated to the maintenance and promotion of good health. One means to achieve this goal is to support, and participate in, the orderly development of adequate health resources to meet the needs of the community. The medical society has a special obligation to its membership and to the community-at-large to provide leadership and support of programs of voluntary community health planning so as to ensure that goals of maintaining and improving the quality, efficiency, availability, accessibility and cost effectiveness of the health care delivery system are met.

As an organization knowledgeable about health and medical services, the medical society is in a unique position to encourage and support the development of a program of community health planning. When voluntary locally based health planning occurs, the medical society should:

1. Participate actively in formulating the purposes and objectives of the health planning organization.
2. Encourage total community support and participation in voluntary health planning.
3. Serve as a medical advisory group to the planning organization in the development of a medically sound and ethically acceptable program that will meet community needs in a coordinated and efficient manner.
4. Seek fair representation for physicians on the policy-making body of the planning organization, appoint such physician representatives and encourage the participation of physicians in the activities of the organization.

Evaluation of Health Planning

A voluntary community health planning program must be evaluated on the basis of its effectiveness in identifying and reaching community needs and priorities. There should be periodic reevaluation of these needs and priorities with assessments of actual accomplishments.

The planning organization should also be evaluated in terms of its effectiveness in assisting providers of health care to develop their own internal planning processes, in stimulating the active participation of all segments of the community in the planning organization's program and the acceptability of that program to the community. The overall health planning program should be judged ultimately as to its success in achieving orderly coordination of existing facilities and services and the development of needed new resources to meet community needs and priorities.

Funding Options

All funding for health planning will ultimately come from the public, although the funding channel may vary. It may be the health care sector, non-health care private sector, or government. This is appropriate because the public is the ultimate beneficiary of a sound health planning program. It is anticipated that a major portion of the funding for a voluntary planning organization will be derived from the community served. This should not preclude the community, however, from selecting an appropriate mix of funding options to support the activities of a local community health planning program. A range of funding options might include:

1. Private funding - health care sector
   (a) health care institutions
   (b) third party payors
   (c) professional associations
2. Private funding - non-health care sector
   (a) community solicitation
   (b) local business and industry
   (c) labor organizations
   (d) private foundations
3. Public funding
   (a) provision of block grants or categorical planning funds to states by the federal government to be allocated to local organizations as start up funds. Such funding should be coupled with a firm requirement for financial self-sufficiency by the local organization within a specified period. The administration of such funding should not be commingled with the administration of funds for patient care services.
   (b) creation of an independent commission or corporation by state government with responsibility for disbursement of funds from a central health planning pool to local organizations. The central funding pool could be derived from:
      (1) imposition of a state fee for performance of such regulatory reviews as may be required by the state, i.e., capital expenditure reviews;
      (2) an assessment of third party insurance carriers on an equitable basis (including intermediaries for Medicare/Medicaid programs); and;
      (3) direct contributions from state government.
   (c) funds provided for purposes of health planning by units of local government.

This report is submitted for the information of the House.

Deaths Following Female Sterilization with Unipolar Electrocoagulating Devices

CENTERS FOR DISEASE CONTROL

H.E.W., Public Health Service, Atlanta, GA.

Epidemiologic Notes and Reports

The number of women undergoing tubal sterilization in U.S. hospitals increased from 200,000 in 1970 to 700,000 in 1978[1]. Since 1979, CDC has been collecting information on deaths associated with tubal sterilization. Of 20 reported deaths, only 3 can be directly attributed to complications of a particular sterilization technique. All 3 followed thermal bowel injury sustained with unipolar electrocoagulating devices. Two of these deaths (Cases 1 and 2) were recently reported elsewhere.[2] These and a third death are summarized below.

Case 1: A 41-year-old woman, gravida 6, para 5, abortus 1, underwent an apparently uneventful sterilization via laparoscopy with a unipolar coagulating instrument. Twenty-three days after sterilization, she returned to the hospital with a history of abdominal pain and vomiting for several hours. At laparotomy, the peritoneal cavity contained copius amounts of pus, and a perforation was noted on the anterior wall of the midportion of the sigmoid colon. A colectomy and a diverting colostomy were performed. The patient's condition deteriorated, and she died 41 days after laparotomy. Histologic review of the colectomy specimen revealed that the perforation had occurred at the site of a thermal injury.

Case 2: A 22-year-old woman, gravida 4, para 4, underwent a dilation and curettage followed by laparoscopic coagulation sterilization with a unipolar device. The curettage was without incident and yielded a scant amount of normal tissue. Electrocoagulation of the tubes was performed without apparent difficulty. Seven days after the operation, she returned to the hospital with fever, abdominal pain, and vomiting. At emergency laparotomy, the patient was noted to have massive peritonitis. An attempt to identify a perforation site was unsuccessful because the bowel was covered with purulent material. The pelvis appeared entirely normal. Material from the abdominal cavity was cultured, the cavity was irrigated, and the abdominal incision was closed. The patient continued to deteriorate, and she died 2 days later from septic shock. At the postmortem examination, no source of the peritonitis could be identified. Cultures of the abdominal cavity material grew *Enterobacter cloacae, Citrobacter freundii, Escherichia coli, Klebsiella pneumoniae, Clostridium perfringens,* and *Bacteroides* spp.

Case 3: A 27-year-old woman, gravida 1, para 1, had an apparently uneventful laparoscopic sterilization with a unipolar coagulating instrument. Thirty-six hours after sterilization, she developed abdominal pain. Over the next 24 hours, her pain increased and she began vomiting. On the third day after sterilization, she was seen in the emergency room with peritonitis and was found to be in septic shock. The patient had a cardiorespiratory arrest before an emergency laparotomy could be performed. After the patient was resuscitated, she underwent laparotomy. Findings included diffuse peritonitis with an area of hyperemia and necrosis at the distal ileum, where a perforation had occurred. An attempt was made to surgically correct the injury, but the patient had a second cardiorespiratory arrest before the operation was completed. She could not be resuscitated.

Reported by the Epidemiology Studies Br, Family Planning Evaluation Div, Center for Health Promotion and Education, CDC.

Editorial Note: These 3 deaths apparently resulted from bowel injury following electrical accidents with unipolar electrocoagulating devices. For the first and third patients there was both gross and histologic evidence that bowel burns had occurred. For the second case, there was microbiologic evidence that the patient's peritonitis most likely followed a bowel perforation.

In the early 1970s, laparoscopy became popular as a technique for female sterilization.[1] Until the mid-1970s most laparoscopic sterilizations were performed with unipolar electrocoagulating devices.[3] Unipolar instruments are used to coagulate the fallopian tube by applying an electric current that proceeds through the operating instrument to the grasping forceps (active electrode). The current coagulates the tube and courses through the patient's body to a ground plate (return electrode) on the patient's skin. This system (Figure 1), which makes the patient an integral part of the electrical circuit, has resulted in major accidents; over 100 cases of thermal bowel injury have been reported.[2] These serious complications occur in approximately 0.5 of every 1,000 cases of unipolar electrocoagulation.[4] Burns of the abdominal wall[5] and burns to the face and hands of the operator have also been reported.[6]

Concerns about the hazards of unipolar electrocoagulation led to the development in the mid-1970s of several instruments for laparoscopic sterilization that reduce the risk of electrical injury, including a bipolar coagulation instrument in which the jaws of the grasping forceps serve as both the active and return electrodes so that current only coagulates tissue grasped by the forceps.[7] Only 1 bowel burn has been reported with use of the bipolar system.[8] Mechanical techniques which use a spring clip[9] or a silastic band [10] completely eliminate the risk of electrical accidents.

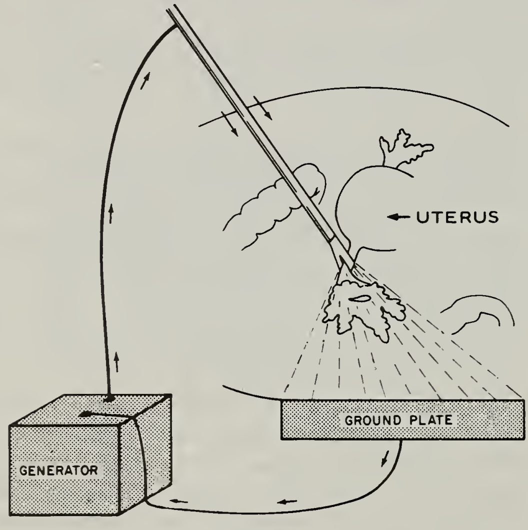

Figure 1
Unipolar laparoscopy

Studies conducted by CDC and others indicate that all methods of laparoscopic sterilization, including unipolar electrocoagulation, have low complication rates and that deaths from these operations are rare. Unipolar electrocoagulation, however, carries a greater risk for electrical accidents than the alternative laparoscopic techniques (bipolar electrocoagulation, spring clip, silastic band) without demonstrably greater efficacy. Thus, the need for its continued use in female sterilization should be questioned.

CDC's Family Planning Evaluation Division is interested in learning about deaths from tubal sterilization. Any such deaths may be reported to state health departments and to CDC at the following address; Family Planning Evaluation Division, Centers for Disease Control, Attention: Sterilization Mortality, Atlanta, Georgia 30333.

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Economic Analyses of CT Scanning

CONGRESSIONAL OFFICE OF TECHNOLOGY ASSESSMENT

A Case Study

The Congressional Office of Technology Assessment (OTA) has recently released a case study which examines the feasibility of conducting an economic evaluation of the computed tomography (CT) scanner. The term "economic evaluation" refers specifically to cost-effectiveness analysis (CEA) and cost-benefit analysis (CBA).

The case study is one of 17 that comprise Background Paper #2 to OTA's assessment of "The Implications of Cost-Effectiveness Analysis of Medical Technology" (August 1980). The overall project was requested by the Senate Committee on Labor and Human Resources. This case study was prepared for OTA by Dr. Judith L. Wagner of the Urban Institute.

CT scanning was introduced in 1973. Its use has sparked a controversy of unprecedented proportions over the tradeoff between the benefits and costs of advanced medical technologies. OTA has previously published two studies of the policies toward CT scanners.

According to the case study, a review of the literature on the cost-effectiveness of CT scanning reveals major weaknesses in attempting to apply CEA/CBA to diagnostic procedures. These weaknesses cast doubt on the value and feasibility of conducting economic evaluations of CT scanning. However, there are a few situations in which a CEA/CBA of CT scanning could be useful to health policymakers.

The case study outlines several major methodological and data problems inherent in determining when a diagnostic procedure such as CT scanning should be used. These problems include the difficulty of: 1) dividing patients into homogeneous groups, based on symptoms and personal characteristics, for analysis; 2) specifying appropriate diagnostic pathways or testing sequences; 3) measuring diagnostic accuracy; 4) measuring diagnostic and therapeutic costs; and 5) determining the outcomes of the diagnostic and therapeutic process. According to the case study, these problems often create such inaccurate and unreliable results that a CEA/CBA of CT scanning is generally not worthwhile.

However, the case study suggests that some of these obstacles could be overcome. Examples of areas that could be improved with relatively little effort include the proper estimation of resource costs, and the identification of patients by specific signs and symptoms. Research to date indicates that patients with headaches and suspected cerebrovascular disease would be excellent candidates for analysis.

The case study then describes a few situations in which economic evaluations of CT scanning could be valuable to health policy decisionmakers. One of these has to do with the number and location of CT scanners in a region. The study suggests that, instead of focusing on the appropriate population/CT scanner ratio for a region, health planning agencies could use economic evaluation to determine the accessibility and cost implications of alternative locations for a designated number of CT scanners. In this situation, the use of CEA/CBA could assist policymakers in making important resource allocation decisions (i.e., where to place CT scanning capacity).

OTA is a nonpartisan congressional support agency which analyzes complex issues involving science and technology for both Senate and House committees. OTA does not advocate particular policies or actions.

The OTA case study, "The Feasibility of Economic Evaluation of Diagnostic Procedures: The Case of CT Scanning," is available at the U.S. Government Printing Office (GPO), Superintendent of Documents, Washington, D.C. 20402. The GPO stock number is 052-003-00810-6; the price is $2.50.

This case study has been prepared by the Office of Technology Assessment, established by the U.S. Congress as a resource to its members.

Current Medicolegal Issues

THE CITATION

Transsexual Sues to Have Medicaid Pay for Surgery

State officials should have been permitted to show that transsexual surgery was experimental or that it was not medically appropriate in the case of a transsexual who sued to have the state Medicaid program pay for the surgery, a federal appellate court for Georgia ruled.

The patient was an anatomical male. In 1974, the transsexual sought approval from Georgia Medicaid officials for funding of transsexual surgery, which had been recommended by a physician. Payment was initially approved, but before the operation could be scheduled, approval was rescinded. State Medicaid officials stated that approval was retracted because the surgery was experimental and in any event was inappropriate treatment for the patient.

In a suit against state and federal Medicaid officials, the patient contended that refusal to pay for the surgery violated a federal statute requiring that a state Medicaid program pay for all medically necessary operations and it could not contest the decision of the patient's physician that transsexual surgery was medically necessary.

Reversing the decision, the appellate court said that a state may adopt a definition of medical necessity that placed reasonable limits on a physician's discretion. The court said that not paying for any experimental surgery was a reasonable limitation. The appellate court said that the trial court on remand must determine whether the state had a policy prohibiting payment for experimental surgery at the time it first rejected the application.

The trial court should also determine that the decision that transsexual surgery was not appropriate treatment for the patient was a proper one, if in fact the operation could be paid for with Medicaid funds, the appellate court said.—*Rush v. Parham,* 625 F.2d 1150 (C.A.5, Ga., Sept. 15, 1980)

Editor's Note: A prior decision in this case was reported in THE CITATION, Vol. 37, No. 1, p.11.

Transsexual Should Get Medicaid Reimbursement

Iowa's policy of denying Medicaid benefits for sex-reassignment surgery when it was necessary for treatment of transsexualism was not consistent with the objectives of the Medicaid statute, a federal appellate court ruled. A trial court ordered reimbursement of expenses to a woman who had undergone such surgery. On appeal, the court held that to exclude the only available treatment for a particular condition was an arbitrary denial of benefits based solely on the "diagnosis, type of illness, or condition."—*Pinneke v. Preisser,* 623 F.2d 546(C.A.8, Iowa, June 27, 1980)

City Ordinance Violates Transsexuals' Rights

As applied to persons undergoing psychiatric preparation for sex-reassignment surgery, a city ordinance prohibiting any person from appearing in public dressed with intent to disguise his or her true sex was unconstitutional, a federal trial court in Texas ruled. The court pointed out that an integral part of the presurgical process for transsexuals wishing to undergo sexual reassignment surgery was to wear the clothing of the gender to which reassignment was sought throughout the preoperative stage.—*Doe v. McConn,* 489 F.Supp. 79 D.C., Tex., April 3, 1980)

THE CITATION is a newsletter on medicolegal issues prepared by the Office of The General Counsel of the American Medical Association.

Anesthesiologists Sue Insurance Company For Alleged Libel and Defamation

A trial court should not have granted summary judgment for an insurance company that was sued for libel, defamation and tortious interference with the physician-patient privilege, a Texas appellate court ruled.

An anesthesiology group claimed the insurance company sent letters to several of the group's former patients. The letters advised the patients that their claims for medical services furnished by the anesthesiologists would not be paid in full because their charges were excessive. The insurance company contended that the letters were absolutely or qualifiedly privileged. A trial court granted summary judgment in favor of the insurance company, and the anesthesiology group appealed.

Reversing the decision, the appellate court said that the letters satisfied the criteria for a qualified privilege. The insurance company was required under federal law to notify the patients that their claims had been denied and the reasons for denial. The court said that there was a presumption of good faith by the insurance company in sending the letters, but that on a summary judgment motion the burden was on the insurer to negate the existence of malice. The insurance company had not done that and summary judgment in its favor was inappropriate.

In addition, the court said that the statute of limitations barred claims based on letters published more than a year before the action was filed.—*Moore & Associates v. Metropolitan Life Insurance Company,* 604 S.W.2nd 487 (Tex.Ct. of Civil App., Aug. 6, 1980)

Mother Claims She Got Polio After Son's Shot

A complaint that a patient contracted polio as a result of contact with her infant son who had received a live polio virus vaccine should be dismissed, a federal trial court in Arkansas ruled.

The patient's son was inoculated with a live polio vaccine on July 26, 1976. The patient contracted polio, leaving her permanently paralyzed. She filed suit under the Federal Tort Claims Act, alleging that her polio was caused by the inoculation and that the government was negligent in licensing the trivalent live vaccine. She also alleged that she was exposed to the vaccine without her consent.

On a motion to dismiss, the trial court said that the government was immune because its actions concerning the vaccine were discretionary functions. The patient argued that the government should not have licensed the live shed-virus vaccine without establishing its safety on non-recipients. There was no regulation mandating such tests, and the patient contended that the government was liable for failure to promulgate such a regulation, clearly a discretionary function, the court said.

The complaint did not state a cause of action and should be dismissed, the court said.—*Loge v. U.S.,* 494 F.Supp. 883 (D.C., Ark., July 28, 1980)

MD Terminated For Reporting Violation Should Be Reinstated, Federal Court Says

A state hospital must reinstate a physician to his former position because the termination of his employment was in retaliation for reporting a violation of federal laws on use of radioactive materials, a federal appellate court for Missouri ruled.

The physician was the chief medical physicist and the radiation safety officer at the state cancer hospital. Early in 1978, a patient whose treatment included implantation of iridium-192 in her body was discharged from the hospital although an iridium implant had mistakenly been left in her body.

The mistake was discovered about three months later on March 28, 1978, and promptly reported to the Nuclear Regulatory Commission by the physician. The failure to remove the iridium violated the hospital's license to use radioactive materials in therapy. The Commission found that persons who came into contact with the patient were exposed to significant amounts of radiation, although within allowable limits.

Prior to making the report to the Commission, the physician had consistently received extremely favorable evaluations of his work. Afterwards he received progressively less favorable evaluations. His department was downgraded at first and then eliminated. He was given a three-day suspension for failing to follow normal procedures in bringing problems to the attention of hospital management. The physician was laid off when his department was eliminated, but his two junior medical physicists were reassigned within the hospital.

The physician complained and a hearing was conducted. The Secretary of Labor ordered him reinstated with back pay, attorney's fees, and deletion of adverse references placed in his file after April 1978. The hospital appealed, and the physician moved to intervene in the suit.

The appellate court ruled that it had no jurisdiction over the physician's petition for enforcement of the order. However, the Secretary's order was supported by substantial evidence and should be affirmed, the court said.

—*THE CITATION, Vol. 42, No. 8/February 1, 1981*

Emergency Room Physician Negligent In Failing To Administer EKG

A trial court erred in denying a motion for a partial directed verdict that an emergency room physician and a hospital were negligent as a matter of law, the Washington Supreme Court ruled.

A 37-year-old patient, an attorney, consulted his family physician on February 16, 1972, for intermittent mid-chest pain he experienced on mild exertion. The physician performed a physical examination, took X-rays and a resting EKG, and ordered cardiac enzyme tests. He suspected angina pectoris, but did not tell the patient of his suspicion or perform a nitroglycerine, treadmill EKG or angiography test to diagnose angina. He diagnosed the patient's condition as inflammation of sternum cartilage and advised the patient to restrict his activities. The patient though he had a flu virus that had recently affected his family.

About two weeks later the patient returned to the physician, complaining of pain and gastric problems after eating. The physician had received the results of the earlier cardiac enzyme tests, which were not within normal limits. He took a resting EKG, which was not normal, and then prescribed an antacid and Sorbitrate. He told the patient that the Sorbitrate was for chest pain but did not tell him of the possibility of angina and heart disease. During the next week, the patient called his physician three times complaining of increasing chest pain radiating into his arms.

At about 3:00 a.m., on March 6, 1972, the patient collapsed and was taken by ambulance to a hospital emergency room. There was testimony that upon his arrival he had a 90 percent chance of survival with appropriate medical care. He was in pain, pale, sweating and short of breath. During most of the time he spent in the emergency room he was on his hands and knees on the bed in an effort to assuage his pain.

The emergency room physician, a hospital employee, performed a brief physical examination and took his blood pressure, which was high. The physician believed that he was suffering from anxiety and prescribed Valium. He called the patient's family physician, who did not reveal the results of his tests or the drugs prescribed. On the patient's insistence he was admitted to a general medical care room. Maalox and Valium were prescribed.

An hour later a nurse called the family physician about the patient's deteriorating condition, poor color and irregular, rapid pulse. He prescribed a non-narcotic analgesic and a tranquilizer. Those drugs had no effect on the patient's condition. An hour later he prescribed morphine and oxygen.

The physician's partner, who was in the hospital on another matter, saw the patient and ordered him moved to the cardiac care unit. The first EKG, taken at the hospital at 9:15 a.m., showed substantial death of the heart muscle. His condition worsened; his heart stopped and he was resuscitated twice before he died at 1:35 p.m.

On appeal from a malpractice verdict for the hospital and physicians, the patient's estate argued that the trial court erred in refusing to give informed consent instructions and in refusing to find certain defendants negligent as a matter of law. The Supreme Court said that the emergency room physician was not subject to the doctrine of informed consent because of the emergency situation and the fact that the patient was interested only in relieving his pain.

The family physician was not negligent as a matter of law, and the question of his negligence was properly left for the jury, the court said. The emergency room physician was negligent as a matter of law in failing to administer an EKG to the patient to rule out a heart attack as the cause of his chest pain. The court also said that the family physician was negligent in failing to inform the patient of alternative diagnostic techniques.

The Supreme Court reversed the decision of the appellate court and remanded the case for trial on the issue of damages that may have been proximately caused by the family physician's failure to inform the patient of alternate diagnostic techniques and by the emergency room physician's failure to administer an EKG and thus diagnose the condition.—*Keogan v. Holy Family Hospital,* 622 P.2d 1246 (Wash. Sup.Ct., Dec. 31, 1980)

Editor's Note: A prior decision in this case was reported in THE CITATION, Vol. 39, No. 4, p. 43.

Mother Cannot Recover For Emotional Harm Caused By Death Of Child After Birth

A mother may not recover for emotional and mental harm she suffered as a result of the death of her infant the day after his birth, a New York appellate court ruled.

The infant died of thrombocytopenia and/or respiratory distress syndrome. The mother's complaint alleged that her two treating physicians were informed of an Rh factor incompatibility between the parents and that her first child had thrombocytopenia at birth. She contended that the physicians knew that her second child would be afflicted with the same disease and that they failed to render proper medical care. A trial court dismissed the mother's claim for emotional and psychological pain and suffering.

On appeal, the appellate court stated that the mother was more than a mere bystander because of her unique physiological relationship with the fetus and the physicians' breath of duty was to the mother as well as to the infant. The court rejected the mother's claim for damages because her emotional pain and suffering were too remote to be compensable. The trial court's decision was affirmed.—*Aquilio v. Nelson,* 434 N.Y.S.2d 520 (N.Y.Sup.Ct., App.Div., Dec. 23, 1980)

—*THE CITATION, Vol. 43, No. 5/June 15, 1981*

Month in Washington

The Reagan Administration and Congress have plunged into a bitter battle over the government budget that could affect all federal programs, including health.

The President has stressed his determination to reduce government spending and his irritation at Congress for not cutting deeply enough by vetoing a continuing resolution to keep the government operating.

The dramatic veto technically brought the government to a halt for a while, since the deadline for the previous resolution had passed. Such resolutions are needed to keep the federal establishment running in the absence of action on the regular appropriations bills, most of which are still before Congress two months into the current fiscal year.

The $428 billion stopgap appropriations resolution called for spending at a level at least $2 billion higher than President Reagan had requested.

Referring to his September request for Congress to decrease appropriations by an additional $13 billion, President Reagan said he had agreed to meet Congress halfway, but that the final resolution was not a fair compromise or sound budget policy.

Such "budget-busting" bills cause "sustained hardship" to taxpayers, the President charged. He criticized the lawmakers for the practice in the last two years of funding federal agencies through continuing resolutions rather than timely action on regular appropriations bills.

Over a frantic weekend, the House, 205 to 194, and the Senate, 46 to 39, approved the massive continuing spending bill despite warnings from the White House that it faced a veto. The margins of support made clear there were not enough votes in either chamber to override the veto, an action requiring a two-thirds vote.

Jolted by the President's veto, the Congress then quickly adopted a "mini" continuing resolution to keep the government running until mid-December, putting off until after the Thanksgiving recess the problem of wrestling with a longer resolution or perhaps attempting to speed action on the regular appropriations bills.

Many of the appropriations measures, which include funds for the Health and Human Services (HHS) Department, are still before Congress. And many of these carry more money than the Administration wants.

The battle between the Administration and Congress on appropriations promises to continue to dominate the scene on Capitol Hill until year's end.

* * * *

The Supreme Court this term is slated to fix important boundaries on the application of the federal antitrust laws to medicine.

Four cases have been accepted for review so far. The latest involve a Blue Shield plan's exclusion of payments for psychologists and the practice of peer review by physicians committees of insurance reimbursement claims.

Previously, the Supreme Court had agreed to rule on the American Medical Association's challenge to the Federal Trade Commission's action against ethical advertising codes and the question of maximum fee schedules for medical foundations.

The decisions on these cases are not expected until this Spring.

The Blue Shield case involved two Virginia plans that excluded payment for clinical psychologists. The Fourth U.S. Circuit Court of Appeals upheld the suit against the plans charging a violation of antitrust laws.

If the high court's ruling is broad enough, it could have an impact on the question of whether health insurance can limit mental health benefits to treatment by psychiatrists or those acting under psychiatrists' directions.

The high court will also consider a case by a New York chiropractor who argued that the peer review process by insurance companies operated to set an upper limit on fees, a practice he charged is price-fixing and thus a restraint of trade.

* * * *

The government is appealing a court order for an open season for the private health insurance plans for U.S. workers, claiming an open season could jeopardize the Blue Cross-Blue Shield plan that covers about half the federal work force.

U.S. District Court Judge Aubrey Robinson, acting on appeals from employee unions, ordered a two-week open season to allow the 9.2 million people covered

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Prepared by the Washington, D.C.
Office of the American Medical Association

under the Federal Employee Health Benefit program (FEHB) to choose other plans. The Office of Personnel Management (OPM) opposed the open season, apparently fearing adverse selection could work against the Blues.

OPM Director Donald Devine said an open season "threatens the integrity and perhaps even the survival" of the government's program.

He said the Blues might have to pull out of the program. Earlier, Blues' officials contended their plans might dip into the red unless they are allowed to trim mental health benefits, presently among the most liberal in the nation.

Psychiatric groups led by the American Psychiatric Association asked the District Court to prohibit the proposed cutbacks in benefits, labelling the move "second rate public policy which if allowed would make second class citizens out of thousands of seriously mentally ill persons."

The reduction in benefits for the Blues would involve limiting in-patient hospital stays to 60 days and outpatient psychiatric visits to 50 a year. The patients would be asked to pay half the outpatient costs instead of the present 30 percent.

Devine had ordered the 126 health plans that participate in the federal employee program to reduce benefits by 12.5 percent while the premium costs would rise nine percent in order to keep the plans on a sound financial footing. The government pays 60 percent of the premium.

There have been resolutions introduced in Congress to continue the present benefit structure until Congress has a chance to study the situation, but there has been no final action so far.

* * * *

Support is picking up in Congress for legislation to expand Medicaid and Medicare coverage for home health services.

The measure's sponsor, Sen. Oren Hatch (R-UT), Chairman of the Senate Labor and Human Resources Committee, is driving for Congressional passage by year's end.

The legislation (S.234) encourages establishment of home health programs and provides tax breaks for families who care for their elderly at home.

At the Committee's final hearing on the bill before marking it up for Committee action, Hatch won support from Chairman Claude Pepper (D-FL) of the House Aging Committee who said he would introduce a companion measure in the House. A number of Senators are co-sponsors of Hatch's bill.

The Senator said more than 25 million Americans are over 65 and that three-fourths of them may be forced to enter nursing homes instead of staying with their families. The Congressional Budget Office said some 1.7 million to 2.7 million people could be in need of expanded home service, but that less than 500,000 people receive it. Less than two percent of Medicare outlays—$750 million—go for home health care.

Actress Helen Hayes told the Committee that "it's such a pity when something as simple as not being able to get out of bed in the morning can cause you to go to a nursing home."

* * * *

The long ordeal of C. Everett Koop, M.D., is over. The Senate has confirmed his nomination to be Surgeon General by a vote of 68-24, ending a seven-month controversy centering around Dr. Koop's outspoken views against abortion.

The nomination was stalled because it was necessary to grant a congressional waiver to allow Dr. Koop to take the post because of age and Public Health Service experience requirements in law. This allowed opponents, led by Chairman Henry Waxman (D-CA) of the House Commerce Subcommittee on Health, to block Senate waivers.

The issue was always abortion, however,. Sen. Orrin Hatch (R-UT), Chairman of the Senate Labor and Human Resources Committee, told the Senate that abortion is a matter of great public debate "and I can conceive of no reason why advocacy . . . should affect Dr. Koop's fitness to be surgeon general."

Said Hatch: "Dr. Koop is a distinguished physician who is eminently qualified to hold this position. Not only is he a renowned surgeon and administrator but throughout his career has engaged in an incredibly numerous and varied set of public health activities."

Dr. Koop, 65, was surgeon in chief at Children's Hospital in Philadelphia when he was nominated.

During the congressional debate over the nomination, he had been serving in his twin capacity as Deputy Assistant Secretary for Health at the Health and Human Services (HHS) Department.

Hatch said that one objection to Dr. Koop had been that he should not be permitted to oversee or control certain PHS programs. Actually, Dr. Koop must report directly to Edward Brandt, M.D., Assistant Secretary for Health, Hatch noted.

The Senate fight against the nomination was led by Sen. Edward Kennedy (D-MA), who criticized what he called "the essentially total absence of training or experience in public health." The Senator also accused Dr. Koop of being "out of touch with the role of women in our society."

Sen. John Heinz (R-PA) said Dr. Koop's "personal views on these matters will in no way interfere with the manner in which he carries out the duties of the office of Surgeon General."

AMA News from the Executive Vice President's Office

AMERICAN MEDICAL ASSOCIATION

THE AMA BOARD OF TRUSTEES, at its meeting October 1981, approved a 1982 fical year budget based on expected revenue of $83,268,000 and expected expenses of $79,229,000.

The 1982 budget will emphasize priorities of the restructured AMA, including representing the profession ($21.7 million) and providing scientific information, $23 million. An additional $6.3 million will go toward providing socioeconomic information, and $4.5 million to provide data on the profession. More than 10% of the total budget, $8.3 million, will be expended on the AMA's continuing programs to maintain educational standards. Other spending will include $5.9 million to maintain organizational and federation strength and $8.6 million to maintain AMA as an organization.

Revenue is expected to come largely from membership dues, $44,282,000, and advertising, $15,443,000. Other anticipated revenues: interest and investment income, $4.3 million; royalties, $3.8 million; subscriptions, $2.9 million; accreditation, contracts, and educational programs, $5 million, and other sources, $7.5 million.

Inflation adds about 10% to the cost of almost every item in the budget without contributing a single dollar to services, noted AMA Executive Vice President James H. Sammons, MD.

"The budget is designed to prudently manage the Association's resources while taking maximum advantage of opportunities to be active on behalf of physicians and the public," said Joseph F. Boyle, MD, chairman of the Board of Trustees. Dr. Boyle noted that the major budget allocations are closely related to the priorities suggested by AMA members in recent surveys.

MARKET FORCES AND INDIVIDUAL DECISION-MAKING should be relied upon to produce the proper supply of well-trained physicians and allied health personnel, says a comprehensive health manpower report approved by the AMA Board of Trustees. The report was presented to the House of Delegates at the 1981 Interim Meeting as part of a continuing AMA reassessment of the nation's health manpower needs. Nine principles are set out for addressing the issues of centralized versus decentralized decision making, physician population, medical education, and allied health manpower. They are:

- In the absence of extensive regulation, the dynamic forces of the marketplace produce incentives for the appropriate production and distribution of medical care services. The AMA supports the operation of self-adjusting market mechanisms that are consistent with quality medical care.
- The number of physicians should be determined by market processes. It is neither feasible nor appropriate for the AMA or any other non-governmental or governmental body to determine the number of physicians that will be needed to properly serve the nation.
- The AMA will help physicians adjust to changing circumstances. This commitment entails the collection, analysis, and dissemination of information needed by market participants in order to make informed decisions.
- The number of U.S. medical schools should be determined by the market and the ability of schools to meet acceptable educational standards. The number of students admitted to individual schools is and should be determined by the faculty and administration of each school.

AMA Newsletter, JAMES H. SAMMONS, M.D., Executive Vice President.

- Medical education should be sufficiently broad to enable practicing physicians to adapt their practice patterns to the changing needs of the population and changing medical technology.
- The AMA encourages development of a variety of innovative financing mechanisms to assist medical students who are faced with high cost and dwindling sources of financial aid.
- The medical profession has an ongoing responsibility to ensure the quality of care and the maintenance of appropriate standards for medical education at all levels. Quality assurance procedures should be used solely for their states purposes.
- The number and distribution of allied health manpower should be determined by market processes. The number of training programs should be determined by the market and the ability of each program to meet acceptable educational standards applicable in the United States. The number of students enrolled should be determined by the faculty and administration of the individual training institution. In addition, information about career prospects should be collected and widely disseminated by interested organizations, including the AMA.
- Both physicians and allied health professionals have legal and ethical responsibilities for patient care, even though ultimate responsibility for the individual patient's medical care rests with the physician. To assure quality patient care, the medical profession and allied health professionals should have continuing dialogue on patient care functions that may be delegated to allied health professionals consistent with their education, experience and competency.

As part of its expanded efforts to represent the profession, AMA will "forcefully deliver the message that a market-oriented approach to health manpower is the correct basis for policy," said Joseph F. Boyle, MD, chairman of the AMA Board of Trustees. "This message must be delivered to those who would advocate the arbitrary determination of the number of physicians, nationally or locally; the number or size of U.S. medical schools, and the number of allied health manpower.

THE TWO LATEST PUBLIC AND PHYSICIAN OPINION POLLS sponsored by the AMA reveal these findings:

Cost is the main problem facing health care today, physicians and the public agree. The public is highly satisfied with the quality of care, but is concerned about the ability to pay for extended illness. The public also has confidence in the AMA's ability to propose fair and workable health care policies—compared to lower confidence in proposals by insurance companies, hospital administrators, labor unions, the federal government, or congressional committees.

Physicians cite the cost of health care, government controls, and problems of delivery and access as health care issues that concern them most. New issues beginning to emerge among physicians are the high cost of new technology and laboratory work, the scarcity of nurses, government funding cutbacks, treatment efficacy, and the increasing number of physicians. Malpractice, which was a major issue in 1977, remains a low level of concern compared to other issues. However, when asked specifically about malpractice, 89% consider it "very important" or "important."

Nearly seven in ten Americans continue to feel there is a need for National Health Insurance, a fairly constant finding in recent years. Fewer than half, however, support NHI if it means an increase in taxes. This apparently relates to the public's concern with the ability to pay for major illnesses. Highest preference is for a comprehensive plan, but more than half would be satisfied with catastrophic coverage.

When offered four choices of possible new health insurance legislation, the public and physicians favored a plan in which employers would offer a choice of amount and type of health insurance, with a minimum amount for all employees.

On balance, Americans feel government regulation increases the cost of health care, but that it also helps to maintain quality. The proportion of physicians who feel there is a need for some form of National Health Insurance has declined steadily since 1978, and stands at only 30% today. There has been a dramatic drop in the past two years in the proportion of physicians under 30 who feel there is a need for NHI. The majority of physicians feel that the supply of MDs is about right, but about 20% of all physicians feel strongly that there is an oversupply of physicians, with another 13% agreeing, but not feeling strongly about the oversupply.

More than 85% of physician respondents agreed with the AMA's positions on three issues: (1) that the federal government should not give preferential treatment to any form of medical practice, (2) health planning should be voluntary and locally based, and (3) the decision whether to perform an abortion should rest with the consenting patient and her physician. On a fourth issue, 61% of physicians agreed with the AMA position that the federal government should provide direct financial assistance to U.S. medical schools and their students.

A majority of both AMA members and nonmembers agree that "It is the professional responsibility of physicians to support political representative actions undertaken on behalf of the profession," and that "AMPAC (American Medical Political Action Committee) has been established to represent the political interests of physician regarding the support of political candidates." Sixty five percent of all MDs agree with the first statement, and 56% with the second.

The Public Opinion Poll by the Gallup Organization, Inc., and the physician opinion poll by Market Opinion Research are the latest in a continuing series of AMA-sponsored studies to assess public and physician opinion on health-related issues.

THE AMA CALLED FOR RESCISSION OF REGULATIONS on patient package inserts and urged the Food and Drug Administration to develop "a cooperative program with the medical profession and other interested parties that will establish an effective means of providing important information about drugs to the individuals who use them."

Testifying before the FDA, Alan Nelson, MD, a member of the AMA Board of Trustees, suggested exploration of the establishment of a private sector demonstration program to identify drugs for which patient information should be available, with physicians playing a key role.

Earlier this year the AMA called for a moratorium on the Carter Administration's PPI regulations, which would have PPIs dispensed with ten of the most widely prescribed drugs or drug classes in a three-year pilot program. The program was put on hold by FDA Commissioner Arthur Hull Hayes, Jr., MD, who said at the hearing that he favored providing drug information to patients but wanted new information on costs and benefits.

While questioning the validity of a study of PPIs conducted for the FDA by the Rand Corp., Dr. Nelson said the study appears to show that inserts did not improve patient compliance with prescribed drug therapy. He also noted that 44% of the patients solicited for the study declined to participate.

Dr. Nelson said President Reagan's executive order on regulatory reform requires federal agencies to demonstrate that the potential benefits to society outweigh the potential costs to society, and he asked, "In a time of ever-constricting dollars for health care services and products, can we truly afford to implement this expensive, unproven regulatory program?" He stressed that the AMA believes patients should be given needed information on drugs and that the principal responsibility rests with the physician. Dr. Nelson pointed out that the first widely distributed patient information leaflet, for oral contraceptives, was developed as a voluntary endeavor by the AMA, the American College of Obstetricians and Gynecologists and the FDA.

"PHYSICIANS HAVE ACTED RESPONSIBLY in their fee-setting practices during a period of unprecedented inflation," AMA Executive Vice President James H. Sammons, MD, said in remarks prepared for a House Commerce Subcommittee on Health hearing Dec. 15, 1981 on the cost of medical care. "As inflation moderates, we fully expect the medical care sector to be able to achieve reductions in the rate of growth of health care costs," he added.

Dr. Sammons reviewed AMA activities aimed at cost containment, citing sponsorship of the National Commission on the Cost of Medical Care, participation in the Voluntary Effort, establishment of the Federation Cost Effectiveness Communications Network, cosponsorship of a national Conference on Utilization of Health Services scheduled for March, and development of coalitions for health care.

By streamlining office practices and reducing the number of diagnostic tests, physicians have reduced their share of the national expenditure for health care, Dr. Sammons said. Of the $247 billion spent in 1980, physician services accounted for 18.9%. In 1970 physician services accounted for 19.1% of the $74.4 billion spent for health care. In the same period, he pointed out, the number of physicians increased by about 36% and the Consumer Price Index measure of the general price level rose by more than 100%.

SOCIAL SECURITY ALERTED PHYSICIANS to expect "a substantial increase in requests for medical reports" as it begins a review of the four million people receiving disability benefits. As many as 150,000 people may be dropped from the program this fiscal year. The crackdown results from a 1980 law requiring Social Security, starting next month, to review nearly every disability case at least once every three years.

Social Security urged physicians to point out to their patients that they, the physicians, do not give an opinion or participate in the decision on whether the patients are disabled. These decisions are made by the state disability offices.

Reflections from the Dean's Office

An Age of Unreason?

ROBERT U. MASSEY, M.D.

> Three speciall Months (*September, April, May*)
> There are, in which 'tis good to ope a veine;
> In these 3 Months the Moone beares greatest sway,—

Here in *The Englishmans Doctor, or The Schoole of Salerne,* we have a passing reference to astrology, not unexpected in a "Regimen Sanitatis" whose origins reach back a thousand years.

Sir Thomas Browne seems to ascribe some of his own qualities to his good stars: "At my Nativity my Ascendant was the watery sign of Scorpius; I was born in the Planetary hour of Saturn, and I think I have a piece of that Leaden Planet in me."[1] Somewhere else he wonders "if there be any truth in Astrology."

Maybe he is not condemning astrology, but only counseling us to beware of blaming fate or taking refuge in determinism when he writes, "Burden not the back of Aries, Leo, or Taurus, with thy faults, nor make Saturn, Mars, or Venus, guilty of thy Follies."[2]

Astrology had its beginnings before history, coming into Europe from Babylon where it rivaled hepatoscopy, or examining livers, as a way of divining the future. In Greece it is said that the science of astronomy came before the superstition of astrology, but in the days of the declining Roman Empire it took deep root. Cicero had condemned it and so did the medieval Church, but churchmen consulted astrologers. What science there was got mixed up with alchemy and astrology. Osler referred to a text from 1422 which betrayed the confused commingling of astrology, astronomy, and medicine: "As Galian the full wies leche saith and Isoder the Gode clerk, hit witnessith that a man may not perfitely can the sciens and craft of Medisin but yef he be an astronomoure."[3]

By the seventeenth century astrology had become for some physicians as important as Hippocrates for making prognoses. On its title page, Nicholas Culpeper's book, *An Astrological Judgement of Diseases,* advertises itself with these lines: "The way and manner of finding out the Cause, Change, and End of the disease. Also whether the sick be likely to live or die; and the time when Recovery or Death is to be expected."

Astrology declined during the Enlightenment, languished among the educated in the nineteenth century, but is once again vigorous today. A recent survey suggested that more than 60 percent of American adults think there may be something to it; my private surveys suggest a higher number. Newspapers print horoscopes, intelligent people claim to see likenesses among those born under the same sign, and my friends seem surprised when I remark that the superstition is not harmless.

It may be that our Victorian forebears understood their science better or had more faith in reason; my grandfather, who taught high school Latin, could discuss knowledgeably the theory of natural selection. Science was simpler then and had a kind of freshness, as of the springtime of a new age. Darwin, Curie, Einstein, and Freud were real people who had important, though often incredible, things to say; what they said was not entirely incomprehensible. Pasteur and Ehrlich were folk heroes.

Science today is remote, mysterious, and seems too difficult. Mesons, quarks, DNA immunosurveillance, and even the Big Bang, do not square with much in real life, are hard to understand, even harder to talk about, and often seem of little practical importance. Some of the new science is vaguely frightening; the technologic changes are expensive and relentless; for many the promise of a new age has gone stale.

C.P. Snow wrote that it was "dangerous to have two cultures which can't or don't communicate."[4] The distance between the scientific culture and the culture of the educated citizen appears to me to be widening. Even minimal scientific literacy among non-scientists is rare; the situation is worse, I believe, than when Snow first described it in 1959. Fascination with astrology and other superstitions may be a symptom of that; reason is suspect at a time when reasonableness is most called for. *Scientific American,* excellent though it is, will not do much to increase science literacy; that has to happen in high school and college. I suspect that nations who are our competitors are doing it better than we are.

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ROBERT U. MASSEY, M.D., Professor and Dean, School of Medicine, University of Connecticut Health Center, Farmington.

The Rights of Minors and the Rights of Parents Revisited II

JOSEPH M. HEALEY, J.D.

The search for a delicate balance between the rights and duties of parents and their minor children continues. Considerable attention remains focussed on parental decisions in the health care process. Of particular interest are the decisions of parents concerning children with Down's Syndrome. A second recent English legal case[1] compliments that discussed last month[2] and provides a context for our continuing discussion.

In June, 1980, a woman gave birth to a baby born with Down's Syndrome. The senior consultant pediatrician at the hospital, Dr. Arthur, was called in to examine the baby in the presence of the baby's parents. The physician noted the distress of the parents and their rejection of the baby because of its severe handicap. Dr. Arthur then entered into the chart the notation: "Parents do not wish it to survive. Nursing care only." He prescribed dihydrocodeine (DF 118) a morphine-type drug, to be given orally in 5mg. doses to alleviate distress as and when it arose, not more than every four hours. The baby died 69 hours later. The cause of death was listed as bronchopneumonia due to consequences of Down's Syndrome. The local police were contacted by a member of an organization called "Life" who alleged that the baby had been starved to death and placed in a side-ward to die. Dr. Arthur was subsequently charged with the murder of the baby. It was alleged that the child died of bronchopneumonia due to lung stasis caused by dihydrocodeine poisoning, a result that had been deliberately brought about with the intention of killing the child. It was further alleged that the child had been deliberately deprived of food and medical treatment so that it would die. Dr. Arthur entered a plea of "not guilty."

Ten days into the trial, Mr. Justice Farquharson directed that the charge of murder be withdrawn from the jury and a charge of attempted murder be substituted. At issue in this substitution was the accuracy of the original postmortem examination and the extent to which the child had been born healthy apart from Down's Syndrome. The original pathologist, not an expert in pediatric pathology, had concluded that the child had been born healthy apart from Down's Syndrome. The defense introduced the evidence of an expert in pediatric pathology whose study of the histological evidence revealed the initial findings to be incomplete and inaccurate. He concluded that the child had calcification of the brain, fibroelastosis of the heart, and congenital abnormalities of the lung. The defense's findings were approved by the judge who then substituted the charge of attempted murder for the charge of murder.

The prosecution emphasized in its case that it did not question Dr. Arthur's motives. However, it regarded conduct which intentionally resulted in the death of a handicapped infant to be in conflict with the criminal law. The defense emphasized in its case that the treatment of the baby was well within generally accepted norms of medical practice and that parents and doctors should be able to make such decisions without fear of intervention by the legal system. Mr. Justice Farquharson instructed the jury to consider the issue in two parts:

> "(1) The jury must decide whether the prosecution had convinced them that Dr. Arthur, when prescribing the regimen he did, took steps to bring about the death of the child intending that he should die. Did he take active steps to ensure that the baby would die, with the intention of bringing that event about?
>
> (2) If the jury concluded this was proved, then a second question faced them: had the prosecution convinced them that the steps taken by Dr. Arthur amounted to an attempt to murder the child?"[3]

The jury acquitted Dr. Arthur in two hours.

Discussion of these issues will continue next month.

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3. *R. v Arthur,* op cit.

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SEMI-ANNUAL REPORTS TO THE HOUSE OF DELEGATES OF THE CONNECTICUT STATE MEDICAL SOCIETY

November 18, 1981

Report of the Council

GUY W. VAN SYCKLE, M.D., CHAIRMAN

The Council met five times since the annual session of the House of Delegates on April 29, 1981. Since all members of the House has received detailed copies of the Minutes of each meeting, this report is limited to those matters which are felt to merit special emphasis.

1. Professional Liability Program

On June 25th the Council of The Connecticut State Medical Society met to determine the feasibility of implementing and operating a physician-owned professional liability company by October 1, 1981. Following protracted debate, the Council decided not to proceed at this time with a captive company. Interim developments which occurred since the last meeting of the House of Delegates which resulted in that decision were:

a. The presence in the state of another insurance carrier, CNA of Chicago, offering comparable liability coverage to the present Aetna program at an estimated 12% below the Aetna rates.

b. Endorsement of the CNA program by a New Haven based IPA of approximately 400 members.

c. Endorsement of the CNA program unanimously by the Board of Directors of Hartford County Medical Association.

d. Presentation to the Council by the CNA organization of an acceptable state-wide program.

e. Our inability to obtain any formal statement from the Aetna organization regarding their proposed rates for the year 1981-1982.

f. A statement by our consultant, American Health Services, than our program in the present environment could only be successful if the Hartford County rescinded its endorsement of CNA, and if our captive physician-owned company endorsed the concept of territorial rating. The Council endorsed the CNA professional liability program on a statewide basis and withdrew its previous endorsement of the Aetna program. It directed the American Health Services and CSMS legal counsel to complete the necessary documents and arrangements to allow the captive company to be made operational with a minimal amount of additional time and expense when conditions in Connecticut were more conducive to the successful marketing of our company.

During the summer the CNA program was implemented and marketed throughout the State. the program has been well received by the Medical Society members with over 2400 physicians joining the program to date. Aetna has continued its program instituting and implementing the concept of territorial rating. Two other additional companies have expressed their interest in entering the professional liability market in Connecticut, namely St. Paul's and INA. At the present time the liability scene in Connecticut has become competitive, resulting in significant reduction in the cost of liability insurance for CSMS members with the provision for a viable alternative to the Aetna program. Regarding our own captive company, all the basic groundwork, including the legal details, has been completed. Although it has not been implemented, it is now in a state of readiness which would allow us to institute the program within months should the need arise.

2. Public Information Program Update

At the council Meeting on September 2nd, Michael Sharon, M.D., Chairman of the CSMS Committee on Public Relations, introduced to the Council Ms. Mary O'Connor, President of Lowengard and Brotherhood, the Society's public relations firm, and the new account executive, Ms. Pat Cechini. Dr. Sharon described the activities of his committee and outlined the informational programs which had been implemented.

Ms. O'Connor reported on the results of the public opinion survey. The findings in the poll will be used to determine future direction and policies of the program. Dr. Michael Sharon will be present at this meeting to answer any specific questions regarding this program.

3. **Committee on Statewide Medical Planning**
   Jerome K. Freedman, M.D., Chairman of the Statewide Medical Planning Committee, reported that his committee had agreed on the role of CSMS in the area of health planning, as had been requested by the Council. Its role is to be based on the following statement:

   "CSMS goals in future health planning should be quality advocacy, patient advocacy, and cost-effectiveness advocacy in every practice setting. We shall deal with other interest groups, but we shall retain our own goals and independence in reaching them. During this period of uncertainty in the health planning process, we should delay no longer in putting ourselves at the forefront of medical progress in future health planning in our state." This policy was endorsed by the Council.

4. **Reports from Physicians and Staff Regarding Activities of State and Federal Agencies**
   The Council continues to be informed regarding activities of these various agencies through the reports presented to the CSMS Council Members by physician representatives and assigned staff. The change in administration in Washington has resulted in changes in funding and emphasis in both peer review and health planning. Information to date suggests that active efforts are being made by the defunded agencies to obtain private funding to allow for continuous, albeit modified activities in the field of health planning.

5. **1982 Budget**
   Following this report is the Budget for 1982 as prepared by the Fiscal Subcommittee and approved by the Council. The budget was reviewed line by line by the Council and despite the continuing inflation pressures, it is recommended that there be no increase in dues. This has been accomplished primarily by decreasing the amount of money budgeted for our public information program from $102,500 in the 1981 budget to $40,000 in the present budget. John Mendillo, M.D., Treasurer and Chairman of the Fiscal Subcommittee, will be present and able to answer any questions. The Council recommends that the budget for 1982 be approved as submitted and that the membership dues be continued at $150.

6. **Conclusion**
   As indicated in the opening paragraph, only matters that are thought to be of major importance have been included in this report. The members of the House are urged to review the Minutes of the meetings held since the Annual Meeting of the House of Delegates and the Chairman of the Council will be very happy to answer questions about any items in this report, or about any items recorded in the Minutes of the last five meetings of the Council.

   At this time the Chairman would like to express his sincere appreciation and thanks to all members of the Council and Staff whose cooperation and assistance have been invaluable.

Connecticut State Medical Society

1982 BUDGET

The House of Delegates approved the 1982 Budget, as submitted, and that the membership dues for 1982 be continued at $150.00.

Income:

Estimated Income from Dues (@ $150.00)	$615,000
Estimated Income from Journal	62,500
Building Income	7,000
Interest & Dividends	45,000
Reimbursement, Collection of AMA Dues	3,500
Miscellaneous Income	750
	$733,750

Budget Allotments:

General:

President of the Society (Honorarium)		$ 1,750
Chairman of the Council (Honorarium)		1,250
Council Expense		3,500
Delegates to AMA (6 Del., Pres., Pres-Elect)		18,500
Travel	$ 6,000	
Lodging	7,000	
Per Diem	3,000	
N.E. Hospitality Suite (AMA Mtgs.)	2,500	
(Mtgs., Chicago & Miami)	$ 18,500	

Legal Counseling		5,000
Legislative Counseling		15,500
FTC Complaint, CSMS-NHCMA Defense		1,000
Employees' Pension Fund		38,000
Trustees' Administrators' Fees-Pension Fund		2,200
Premiums for Employee Health Insurance Plans		11,500
Reserve for Contingencies		25,000
Annual & Semi-Annual Meetings		12,000
David A. Grendon Memorial Fin. Aid Fund of CSMS		8,000
General Insurance		1,050
Public Information Program		40,000
Commitee Allotments, Dues, Etc.		15,500
Public Health	200	
Legislation	8,000	
Liaison Comm. Pharm. Assoc.	250	
Cancer Coordinating Committee	300	
Conn. Adv. Comm. Foods, Drugs	125	
Mental Health	200	
Hospital Committee	100	
Third Party Payments	100	
AMA-ERF Campaign	300	
Perinatal Morbidity & Mortality	200	
Emergency Medical Services	150	
Insurance	50	
CME Comm. & Accreditation Program	600	
Coop. Comm. Med. Schools of Conn.	100	
Public Relations	250	
Council N.E. State Med. Soc. (Dues)	175	
Comm. Program Scientific Assembly	200	
Judicial Committee	$150	
Liaison Comm.-Dept. Income Maint.	150	
Forum for Medical Affairs (Dues)	150	
Professional Liability	500	
Peer Review Systems	300	
Statewide Medical Planning	300	
Drug Abuse Educational Program	100	
Maternal Morbidity & Mortality	25	
Continuing Medical Care & Rehab.	50	
Allied Medical Services	175	
Medical Aspects of Sports	200	
Auxiliary to CSMS	2,000	
Miscellaneous Committees	100	
	$15,500	
		$199,750

Treasurer's Budget

Printing & Postage (Coll. of Society Dues)	$ 1,000
Printing & Postage (Coll. of AMA Dues)	800
Certified Accountants (Annual Audit)	1,025
Computer Services (Financial Report)	675
Investment Counseling (Colonial Bank)	1,400
Commission Expense (Hartford-New Haven)	2,300
Miscellaneous	50
	$ 7,250

Executive Office Budget:

Personnel		$239,338
Pension for Mrs. Creighton Barker 6/23/60)		3,000
Office Operation		40,200
Staff Travel & Misc. Expenses	$ 9,000	
Office Supplies	1,000	
Maintenance of Office Equipment	500	
Printing & Postage	6,000	
Telephone Tolls & Telegrams	1,500	
CSMS Newsletters	10,000	
Sportsmed Publication	4,000	
Subscriptions	300	
News Clipping Service	400	
Addressograph Service	250	
Xerox Rental	2,800	
Automobile Lease	4,200	
Miscellaneous	250	
	$40,200	
Provision for Social Security Taxes		14,207
Provision for Unemployment Taxes		2,245
		$298,990

Journal Budget:

Personnel			$42,647
Manufacturing Cost & Distribution			118,000
Printing		$106,700	
Journal	$99,000		
Roster	7,700		
Postage & Handling		7,800	
Journal	$7,100		
Roster	700		
Reprints		3,500	
		$118,000	
Office Operation			8,025
Printing & Postage		$ 3,000	
Office Supplies		600	
Telephone Tolls & Telegrams		800	
Sales Tax		100	
Editorial Board Meetings		125	
Editor's Travel (250 mi. radius)		700	
Maintenance of Office Equipment		350	
Subscriptions		400	
Copyrights		300	
Libel/Slander Insurance		500	
Miscellaneous		100	
Advertising Agency		1,050	
		8,025	
Provision for Social Security Taxes			2,857
Provision for Unemployment Taxes			776
			$172,305

Building Operation:

Municipal Taxes on Building & Equipment	$ 11,000
Comprehensive Insurance	1,475
Custodial Services	2,900
Building Supplies	600
Electricity, Gas, Water	3,800
Fuel	3,000
Maintenance of Grounds & Snow Removal	1,400
Reserve for Depreciation	2,200
Basic Telephone Service—All Departments	4,200
Repairs & Replacements	1,000
Alarm System	650
	$ 32,225
	$710,520

Anticipated Income over Expense $23,230

Report of the AMA Delegation

Subject: 1981 Annual Meeting of the AMA House of Delegates
Chicago, Illinois
June 7-11, 1981

The Annual Meeting of the AMA House of Delegates was held in Chicago, Illinois, June 7-11, 1981 with 283 delegates, including 56 representatives of national specialty societies, in attendance.

The House of Delegates, convening for the first time following the change in Administration, adopted a resolution calling for support of the objectives of the President as he seeks to revitalize the nation's economy by reducing federal spending, federal regulations and federal taxes.

Addressing the Delegates, Edward N. Brandt, Jr., M.D., HHS Assistant Secretary for health, former chairman of AMA's Section on Medical Schools, stated that the Administration's health policy would continue the support of research, prevention and emergency care. Programs will be transferred to the States and funds allocated, via Block Grants. PSRO and Health Planning (PL 93-641) will be phased out.

Dr. Robert B. Hunter, in his Presidential address, said Freedom's opportunities entail responsibilities of the profession to society in areas of cost-effectiveness, medical education, ethics and the betterment of public health.

Executive Vice President, James H. Sammons, M.D., reported that a recent survey had indicated that what physicians want basically from the AMA is representation. Often a function that the AMA alone can provide, is its duty to represent physicians on both medical and socio-economic issues as The Doctor's Advocate.

A major report of the Board of Trustees called for representation, providing scientific and socio-economic information, establishing standards of conduct and sharing the implementation and maintenance of educational standards with other organizations. A resolution recommending reorganization of the AMA structure and staff and an annual dues increase of $35 was approved. The dues for 1982 will be $285. Dues for medical students and interns will remain at $15 and $35 respectively.

A major decision to institute a Direct Membership Option to allow the AMA to recruit members in cooperation with state medical societies that join the AMA in a coordinated marketing campaign was adopted with necessary by-law change. Through this method a potential increase in membership, among the 178,000 physicians who do not belong to a state or county society, is expected.

Concern was expressed that current marketing competition proposals being introduced in Congress would result in a shift in the way medical services currently are delivered which could result in a deterioration in accessibility, reliability and quality of care.

The House rejected the recommendation of the Board of Trustees and voted to combine the Council on Constitution and Bylaws, rejected the recommendation of the Board of Trustees and voted to continue the Council on Long Range Planning and Development and voted to discontinue the Council on Continuing Physician Education.

The Council on Medical Service, Report A, which proposed a series of guidelines for voluntary health planning programs for use in a formalized process actively originating from the expressed will of the community. An amendment encouraging medical societies at state and local levels to use these voluntary principles when participating in the development of health planning programs at the community level, was adopted.

More than 160 Resolutions were submitted to the House for consideration.

The House acted to:

— Adopt a Judicial Council report that the establishment of a committee in each hospital to review the care and treatment of comatose patients should rest with the governing board and medical staff of each hospital.

— Adopt the Judicial Council report that its opinion on terminal illness should apply also to the care of the patient in a permanent vegetative state.

— Adopt a resolution to continue to seek repeal of federal legislation mandating certificate of need statutes.

— Postpone action on resolutions dealing with gun control legislation.

— Resolved that AMA continue to provide programs of continuing medical education involving direct student-teacher interaction and remain eligible for accreditation.

- Adopt a Council on Scientific Affairs, Report H, on Electronic Fetal Monitoring.
- Adopt a substitute resolution relating to PSRO that physicians maintain control and direction over peer review and that peer review be done by physician-sponsored organizations regardless of funding sources for such review and that the AMA notify all agencies involved in medical peer review of this resolution.
- Approve the concept of equal rights for men and women but did not endorse the Equal Rights Amendment.

The 1981 Annual Meeting of the AMA House of Delegates, clearly acting to meet current demands and a changing environment, resulted in approval of recommendations of the Board of Trustees and Councils which will significantly alter the existing profile, functions and structure of the AMA.

AMA DELEGATION:

Delegates— Orvan W. Hess, M.D., Chairman
Guy W. Van Syckle, M.D.
Frank K. Abbot, M.D.

Alternate Delegates — Isadore H. Friedberg, M.D.
William A. Whalen, Jr., M.D.
Stewart J. Petrie, M.D.

President — Andrew J. Canzonetti, M.D.

President-Elect — Gioacchino Parrella, M.D.

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SUMMARY OF PROCEEDINGS HOUSE OF DELEGATES—SEMI-ANNUAL MEETING

Ramada Inn—November 18, 1981

Reports and Resolutions

The House of Delegates received reports from the President, the Council and the AMA Delegation. A number of resolutions were also received from the component County Medical Associations and individuals.

Principal Actions Taken

(a) **Report of the President,** Andrew J. Canzonetti, Waterbury: The House VOTED to accept the report of the President which highlighted the considerable efforts expended by the Society to alleviate the professional liability rate increase crisis. He reviewed the Society's successful attempt to secure the passage of a Charter Bill through the state legislature and the subsequent efforts to form a captive insurance company. Dr. Canzonetti explained that the captive was on the "shelf" and could be activated in the future with little difficulty.

The President also reviewed the effects of the Reagan Administration's budget cuts on current health care programs. He mentioned that further cuts were being planned but that it was difficult at this time to evaluate the overall effects of the proposed cuts.

(b) **Report of the Council,** Guy W. Van Syckle, Danbury, Chairman of the Council: The House VOTED to accept the report of the Chairman of the Council, which reviewed the activities of the Council since the last House of Delegates meeting. Special emphasis was made concerning the Public Information Program and the Professional Liability Program. Action on the Council's recommendations are reported on later in this summary. Dr. Van Syckle also expressed the Society's delight at Dr. Canzonetti's presence and recovery from his recent surgery.

(c) **Report of AMA Delegation:** The House VOTED to accept the report of the AMA Delegation, which was prepared by the CSMS delegates and alternate delegates to the AMA. The comprehensive report contained all of the principal actions taken at the 1981 meeting of the AMA House of Delegates.

(d) **Budget for 1982:** The House VOTED (1) That the action of the 1979 House of Delegates earmarking $25 of dues for Public Relations Programs be rescinded, and (2) That the House approve the 1982 budget as submitted, and that the 1982 membership dues be $150.00.

The House VOTED to adopt the following resolutions:

Resolution on *Connecticut Medicine*

BE IT RESOLVED: That the CSMS House of Delegates instruct the speaker to appoint an Ad Hoc Committee to Evaluate *Connecticut Medicine* and to report back to the House at its Annual Meeting in April of 1982, and further,

BE IT RESOLVED: That the Ad Hoc Committee be a representative committee made up of members of the House and that the Ad Hoc Committee take into consideration increasing the readership and such concerns as: the format of the publication; its objectives; the need to communicate with the membership; and the annual publication costs as related to the overall CSMS budget.

Resolution on the Legal Definition of Death

RESOLVED: That the Connecticut State Medical Society adopt the statute as endorsed and recommended by the President's Commission for the study of Ethical Problems in Medicine and Biomedical and Behavioral Research to Congress and to the President:

"Uniform Determination of Death Act"

"An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards."

BE IT FURTHER RESOLVED: That the CSMS Council appoint an Ad Hoc Thanatology Committee which will, with the Committee on Legislation, draft an appropriate bill for presentation to the next regular session of the Connecticut General Assembly, which will incorporate this model statute.

Recognition of Service to the Society

OFFICERS

Edward A. Kamens, Fairfield	
Councilor-at-Large	1980-1981
J. Alfred Fabro, Torrington	
Delegate to AMA	1967-1980
Sidney L. Cramer, Hartford	
Alternate Delegate to AMA	1967-1980

COUNTY COUNCILORS

Fairfield	
Daniel W. Doctor, Westport	
Associate Councilor	1980-1981
Francis A. Klimas, Shelton	
Associate Councilor	1980-1981
Hartford	
Frank K. Abbot, Hartford	
Associate Councilor	1979-1981
Litchfield	
John J. Barrett, Torrington	
Associate Councilor	1979-1981
Middlesex	
Herbert M. Magram, Fort Lauderdale, Fla.	
Associate Councilor	1973-1978
Councilor	1978-1981
Windham	
David H. Bates, Putnam	
Associate Councilor	1979-1981

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CONNECTICUT STATE MEDICAL SOCIETY
190th ANNUAL MEETING
MAY 26, 27, 1982
PARKVIEW HILTON HOTEL, HARTFORD

ANNUAL MEETING OF THE HOUSE OF DELEGATES
WEDNESDAY, MAY 26, 1982
GENERAL SCIENTIFIC PROGRAM OF THE SOCIETY
THURSDAY, MAY 27, 1982

PLAN NOW TO SAVE THE DATE

CSMS Award Presentations

Award Presentations at the Semi-Annual House of Delegates Meeting

Wednesday, November 18, 1981
Ramada Inn, North Haven

Andrew J. Canzonetti, M.D., President of the CSMS, of Waterbury, addresses the delegates.

J. Alfred Fabro, M.D., left, of Torrington, receives a Paul Revere Silver Bowl from Andrew J. Canzonetti, M.D., President of CSMS, honoring him for past service to the Society.

Andrew J. Canzonetti, M.D., President, left, presents certificates honoring past service to the Society to: L-R, Frank K. Abbot, M.D., Hartford; Ms. Martha Klimas, representing Francis A. Klimas, M.D., Shelton; and Daniel W. Doctor, M.D., Westport.

Sidney L. Cramer, M.D., left, of Hartford, accepts a Paul Revere Silver Bowl from Society President Andrew J. Canzonetti, M.D. of Waterbury, in honor of past service to Society.

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BOOK REVIEWS

THE FACTS ABOUT CANCER

By Charles F. McKhann, M.D., Englewood Cliffs, N.J., Prentice-Hall, 1981. 299 pp. $17.95.

In his preface to "The Facts about Cancer," Charles McKhann tells his readers that "the main purpose of the book is to respond to some of the many concerns and questions raised by my patients and their families." In fact, the author has done more than that—he carries a message that has significance for another audience as well, one that is as much in need of it as are his intended readers. That second audience is his fellow physicians.

For what Dr. McKhann has accomplished is to use his own experience in dealing with the problems of cancer patients to search into the depth of their fears, to reach the heights of their hopes and to find a path to an empathetic understanding of their attainable and unattainable goals. He has done all of this with a sensitivity and even a tenderness that stands as a fitting rebuttal to those critics who feel that modern medical technology has wrenched the soul out of what was once a nurturing guild of healers.

We live in an era in which vociferous special-interest groups tell us how to care for the sick; lawyers and legislators lecture us on medical ethics, women's groups flay us for our methods of treating breast and gynecological disorders, and clergymen try to dictate the decisions we make about embryonic life. It is about time that those of us who toil in the wards of our modern hospitals let the world know that we are quite capable of dealing with our own ethical and moral dilemmas and quite willing to form partnerships with individual patients to address each issue as it appears in the unique setting of that one person's life. This is the most significant contribution made by Dr. McKhann's book; he deals with real problems that we will all recognize, and he provides real solutions for real people. Only a medical clinician who has spent countless hours at the bedsides of afflicted human beings could have written this unusually lucid, far-ranging and practical guide to the manifold problems faced by the patient with cancer. This is a how-to-do-it book with a soul.

There are basically two parts to this useful work. The first, entitled "The Impact of Cancer," describes the various ways in which the disease changes the lives and orientation of its victims, and suggests ways to facilitate the healthiest forms of adaptation and obviate, as much as possible, the less appropriate choices. The second part of the book deals with the specifics of treatment methods, and then goes on to describe the types of cancer that occur in the various organ-systems. The general tone of both sections conveys a note of guarded optimism and a suggestion of the warmth and willingness of the various emotional and therapeutic support systems that are available.

Because this volume elucidates so many of the concerns of all of our cancer patients, it can be of practical use to every clinician. The problems and their possible solutions will be viewed differently by each of us, but the great value of this book for doctors is that it presents a way of proceeding that is the result of one observer's wide experience and careful self-examination—there are no fuzzy theories here, only solutions that are eminently sensible, practical and supportive. Moreover, each of the individual chapters devoted to the strictly diagnostic and therapeutic aspects of cancer, although written for laymen, can serve the physician as a thorough and complete review of all significant factors.

In short, this book is exactly what Dr. McKhann meant it to be, and more. It deserves to be read by all of us, and to be strongly recommended to our cancer patients and their families.

Sherwin B. Nuland, M.D., F.A.C.S.

A SOCIETY OF PHYSICIANS: AN ACCOUNT OF THE ACTIVITIES OF THE MEMBERS OF THE MASSACHUSETTS MEDICAL SOCIETY, 1923-1981

By Everett R. Spencer, Jr. Published by The Massachusetts Medical Society, 1981 410 pp.

In his introduction, Dr. Claude E. Welch, surgeon and past President of the Massachusetts Medical Society, states that the choice of Mr. Everett Spencer to write this account of the Massachusetts Medical Society from the years 1923 to 1980 was fortunate. Certainly no better qualified person could be found to write such a history. He does the Massachusetts Medical Society proud as well as himself.

His objectives for this history were that it "was designed for current members, future members, and the interested laity in order that they may get a better insight into organized medicine—what it is and how it functions—and that they may understand and appreciate that organized medicine is a personal, vital force magnificently and miserably human, subject to the frailties and glories of the human kind." Since its most significant association with any other organization is the American Medical Association, it is necessarily included in the history, giving an excellent insight into organized medicine.

I can say that he has done this very well, speaking from a long experience involved in organized medicine, and a 14 year association with him in the AMA as a delegate. Mr. Spencer was a teacher not only of MMS delegates about the AMA, but also of the entire New England Delegation, which he was largely instrumental in organizing. He joined MMS in 1943.

A good part of the history is made up of interesting and important episodes. Established in 1781, the MMS has "the distinction of being the oldest American medical society with a continued existence." Formed during the Revolutionary War, both Royalists/Loyalists and Rebel physicians were included among the 14 original petitioners. It was "formed . . . to promote medical institutions formed on liberal principles." The MMS is made up of 21 district medical societies, analogous to counties. They make up its Council, the policy-making body of the Society, which meets three times a year. As he states, "Every member of the Society may speak and be heard, or write and be read. A member may guide a proposal through the district, into committee considerations, and to and through the Council." From the state, such ideas and resolutions can reach the AMA through an analogous procedure, even to become policy of the national body—in truth, a democratic organization structured on republican principles.

One of his early and interesting episodes occurred in the 1940s when President Truman tried to push through a national compulsory health program. Though the main thrust of opposition was the AMA, the MMS also was heavily involved. While there had been previously no membership dues to the AMA, its House of Delegates unanimously voted a $25 assessment to be levied on all physicians to support an all-out campaign to defeat Truman's bill. For that, it retained a skilled team—Whitaker and Baxter. Though there was active dissident opposition, especially in MMS, its majority and that of the national membership felt that the $25 assessment was well worth the money in contributing to the defeat of the bill.

He devotes several chapters to actions of the state Committee on Ethics and Discipline (E&D), which when compared with other state societies, has been quite active. It began numbering its cases in December 1975. From then until 1978, there were 352 cases; from December 1978 to December 1979 there were 191 cases! One which received state and national press coverage dealt with the "Trial of Robert E. Lincoln" who was finally asked, after extensive and publicized hearings by Society committees, to resign as a member for such unethical practices as "promising radical cures, boasting of cures or extraordinary skills, and following a dogma, tenet, or principle based on the authority of its promulgator to the exclusion of demonstrated and scientific experience." Even *Life* and *Time* magazines carried illustrated articles because Dr. Lincoln had "apparently cured" the son of Senator Toby, New Hampshire Republican, of lung cancer.

However, though the Committee on E&D was scrupulous in maintaining the discipline and ethics of its members, it also went to extreme efforts to protect members who had been unjustly disciplined by the state-appointed Board of Registration of Medicine. The MMS was involved in two similar cases, the first in 1932, the second in 1978. In June 1931, the committee felt that there had been a terrible miscarriage of justice against a member, Dr. George J. Ott, who had been found guilty of illegal abortions by the Board of Registration, on evidence obtained by entrapment used by a woman stool pigeon of the State Police Department. The MMS resorted to the courts, and in a long expensive procedure the action against Dr. Ott was reversed by the Supreme Judicial Court of Massachusetts.

Again in 1978, the authorities used entrapment by "planting" an undercover agent as a patient in the doctor-suspect's waiting room. As a result, a Dr. Eramo was arraigned in Superior Court on charges of illegally distributing excessive amounts of amphetamines to truck drivers to keep them awake. He was found guilty. Assisted by MMS, these findings of guilt were set aside by the Supreme Jucicial Court on December 8,1978.

Throughout its history, the state Committee on E&D has been active and in all cases described by Mr. Spencer followed procedural due process in conducting fair hearings to its members.

One of Mr. Spencer's most widely publicized episodes is that of the "Knowles Affair." Dr. Knowles was always a national figure, beginning especially with a six-month controversy in 1969 when he was considered for appointment as Assistant Secretary for Health and Scientific Affairs of the Department of Health, Education, and Welfare. When his name came up for that appointment, he received the support of a dozen or so leaders in MMS, who introduced a resolution to the Council supporting Knowles' appointment. But what interested the press and AMA delegates was the involvement of the AMA; it was widely held, especially by Dr. Knowles, that it was instrumental in his not being appointed. Spencer clarifies the entire situation. The AMA Board of Trustees officially proposed Dr. Richard Wilbur, nephew of then President Dwight Wilbur, for the position. If Secretary Finch would not accept him, it had several others it would endorse. It neither opposed nor proposed Knowles. He finally was not appointed.

Soon after, Dr. Knowles again provoked a storm, with national press headlines, due to an interview he gave to a reporter in *Intellectual Digest*. The headlines: "Knowles accuses his colleagues of 'making a killing.' " He recited how, while stranded because his car (a Mercedes) had broken down "about 100 Cadillacs—many of them probably being driven by doctors—passed me by. Thirty to forty percent of the physicians are making a killing goes without saying." The Committee on E&D requested him to appear before it to substantiate his allegations. He not only refused to do this, but refused to appear before the committee. It was finally voted that he be censured. (He died March 6, 1979, at the age of 52, in his own Massachusetts General Hospital.)

The chapters on the *New England Journal of Medicine* are interesting not only because of its outstanding prestige, but its relation with MMS. The *NEJM* was begun in 1812 as the *New England Journal of Medicine and Surgery* (and the Collateral Branches of *Science*) as a quarterly. Sixteen years later, it bought the weekly *Medical Intelligencer,* the two being combined into the weekly *Boston Medical and Surgical Journal,* in 1828. In 1921, the MMS bought the *BMSJ* for the sum of a dollar. On February 18, 1928, in commemoration of the 100th anniversary of the first issue of the *BMSJ,* it was succeeded by the *New England Journal of Medicine,* the first issue being February 23, 1928. Though the *NEJM* may be owned by the MMS, because it demonstrates independence in its editorials, at times contrary to the policies of organized medicine, there is still confusion about many physicians as to its exact relation. Generally publication owned by a publisher or organization reflect in its editorials policies of that organization. Mr. Spencer addresses this by a statement that should clarify the relation: "The Journal has since enjoyed relative immunity from Society scrutiny—other than that of the Committee on Publications, which is responsible to the Council, and that of the Council, which has the authority to approve or disapprove the Journal's budget. For all practical purposes, the Journal manages the nitty-gritty of its own fiscal affairs." Dr. Relman, present Editor, adds on January 4, 1979, "Legally and administratively a child of MMS, but in its editorial policies always independent."

When Dr. Franz Ingelfinger learned he had cancer of the esophagus, he was requested by Claude Welch to prepare guidelines for MMS in selecting an Editor for the Journal to succeed him. His guidelines are worth repeating, each provision amplified by him: 1) Status in American medicine, 2) Clinical Interests and Experience, 3) Breadth of Interest, 4) Flexibility and Tolerance, 5) Leadership and Personality, 6) Literary Ability, 7) Editorial Experience, 8) Ideation and Devotion to Detail, 9) General.

The result—Arnold S. Relman, appointed in 1977. He received his A.B. in 1943 from Cornell and his M.D. from Columbia University in 1946. He had his residency at Yale-New Haven Hospital, 1946-49, and two years as an Assistant in Medicine, Yale (1949-50). Then an association with Boston University School of Medicine, up to Professor of Medicine, and then head of the Renal and Electrolyte Section. In March 1978, *NEJM* was winner of one of 12 George Polk Awards selected for its medical coverage in 1977, one of the most prestigious awards in journalism.

Journal subscriptions as of January 3, 1980 reached a grand total of 200,131—3,610 in Connecticut.

A Society of Physicians, by Everett R. Spencer, Jr., is a story I recommend highly not only for Massachusetts physicians but for all physicians interested in organized medicine. The strength of the federation of the American Medical Association rests on the strength of its state societies. The deeds of the Massachusetts Medical Society deserve an excellent history. Mr. Spencer accomplishes that in 1981, its 200th anniversary.

Fred Fabro, M.D.

Primary Renal Candidiasis

WILLIAM B. WHITE, M.D. AND GARY SMOTRICH, B.S.

ABSTRACT—Primary renal candidiasis is a unique infection rarely reported in patients with significant alteration in their host defenses. Because the clinical manifestations may be elusive, we utilized this case report to further define the unusual clinical and radiological findings and compare the few previously reported cases.

The kidney is one of the leading sites of visceral infection when candidemia is present. Primary renal candidiasis is an uncommon situation when *Candida* organisms invade the renal parenchyma without the presence of candidemia or other systemic organ involvement. Since first reported in 1953 by Albers,[1] there have been less than 30 well-documented cases in adults.

Diagnosis of primary renal candidiasis may be difficult since candiduria may signify benign saprophytic colonization rather than true infection of the urinary tract.[2-4] *Candida* cystitis without associated renal parenchymal involvement and *Candida* infection superimposed on bacterial pyelonephritis also are considerations in the differential diagnosis. *Candida* pathogenicity and renal parenchymal involvement generally occur when host resistance is altered or compromised with prolonged antibiotic therapy, diabetes mellitus, malignancies, or immunosuppressive drug therapy.[5]

This case demonstrates both interesting and unusual clinical and radiologic features of primary renal candidiasis in a patient with alcoholic liver disease and non-insulin dependent diabetes mellitus. Previous findings from the literature are discussed to compare and outline the clinical spectrum of the disorder.

Case Report

A 62 year-old white man admitted to the Newington V.A. Medical Center for hepatic encephalopathy was noted to have pyuria and hematuria on routine urinalysis in January 1981. Ampicillin was given for an enterococcal infection but the pyuria persisted. An intravenous pyelogram (Figure 1) showed a slightly enlarged right kidney with delayed excretion and a radiolucent obstruction of the distal ureter with proximal dilatation. The following day a retrograde catheter was easily passed and interestingly, pyelography was normal. Before further investigation could be carried out, the patient left the hospital against medical advice.

On a second hospitalization in February 1981 for worsened hepatic encephalopathy, right flank pain and recurrent spiking fevers developed. Physical examination demonstrated tenderness in the right costovertebral angle, moderate ascites, and a liver span of 12 centimeters. There were no abdominal masses or tenderness.

The urine had a pH of 6, 50-60 white blood cells per high power field, 10-12 red blood cells per high power field, and occasional

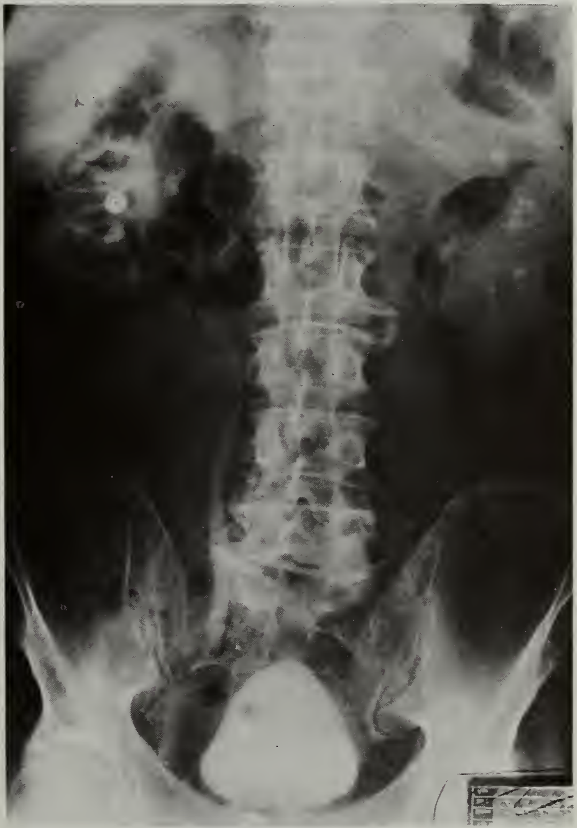

Figure I
Intravenous pyelogram demonstrating obstruction of the distal right ureter with resulting hydroureter (delayed film at 45 minutes).

WILLIAM B. WHITE, M.D., Assistant Professor of Medicine; GARY SMOTRICH, B.S., Senior medical student: both of the University of Connecticut School of Medicine.

yeast. The hematocrit was 33%, hemoglobin 11.3 gm/dl, the white blood cell count was 3,600/mm^3 with 44 polymorphonuclear cells, 6 band forms, 43 lymphocytes, 7 monocytes; the platelet count was 86,000/mm.^{3} Bone marrow examination was normal excepting for mild erythroid hyperplasia. Cultures of the bone marrow were negative for fungi and other pathogens. The blood urea nitrogen was 28 mg/dl and serum creatinine 1.6 mg/dl. The fasting blood sugar was 150 mg/dl. The liver enzymes were normal. A serum protein electrophoresis showed a mildly depressed albumin and beta-gamma bridging.

A repeated intravenous pyelogram showed poor excretion by the right kidney at 90 minutes. The next day the patient spontaneously passed two fungus balls which histologically demonstrated *Candida albicans* (Figure II). On cystoscopy the urethra and bladder were normal and retrograde pyelography was again unremarkable. A ureteral catheter which was placed in the right renal pelvis for 24 hours retrieved 700 cc of urine which yielded a pure, heavy culture of *Candida albicans.*

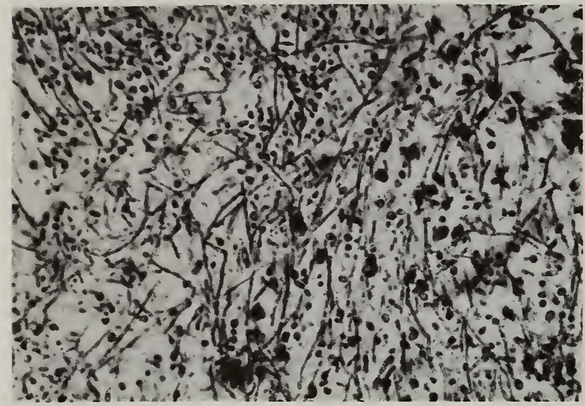

Figure II
Cross-section of fungus ball showing spores and pseudohyphae of *Candida albicans* (hematoxylin and eosin, 430x).

Several blood cultures were negative for *Candida;* however, the serum was positive for *Candida* precipitins by agar gel diffusion (CDC Laboratories, Atlanta, GA) and negative for agglutinins. An echocardiogram revealed no evidence for valvular vegetations. A gallium-67 radionuclide scan (Figure IIIA) was abnormal with markedly increased uptake in the right renal parenchyma 72 hours after injection. Realtime ultrasonography ruled out renal parenchymal or perinephric abscess.

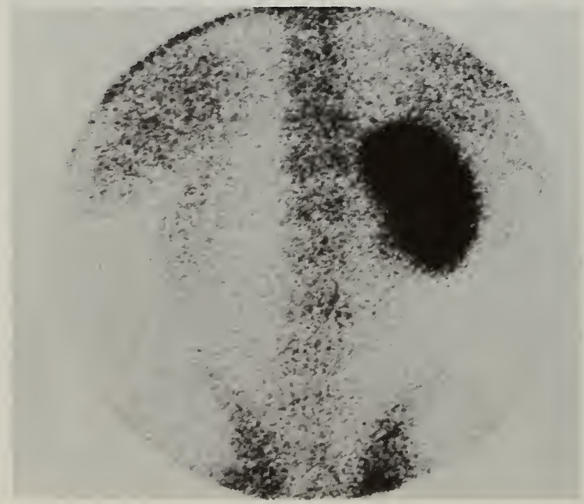

Figure IIIA
Gallium-67 radionuclide scan at 72 hours after injection showing marked uptake by the right kidney (posterior view).

The patient was treated with 210 mg of intravenous Amphotericin B over a two week period with daily monitoring of renal function. Two weeks after stopping therapy, the creatinine was 1.2 mg/dl and the twenty-four hour creatinine clearance 58 cc/minute. Several subsequent urine cultures were sterile and microscopic examination of the urinary sediment showed no yeast. The gallium scan repeated three weeks after the end of therapy showed resolution of the abnormal uptake by the right kidney (Figure IIIB). On outpatient follow-up two months after therapy, the urine remained free of pyuria and *Candida.*

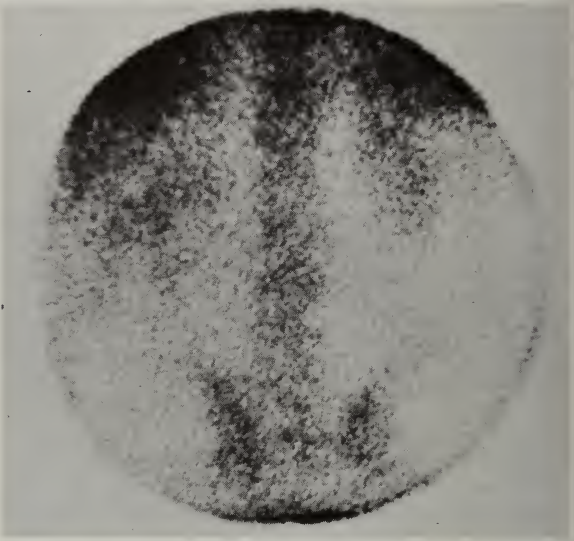

Figure IIIB
Repeat gallium-67 scan at 72 hours after injection two weeks after completion of therapy (posterior view).

Discussion

Renal candidiasis has been classified into the following types: 1) Secondary involvement following hematogenous dissemination with renal parenchymal and subcapsular abscesses; 2) Necrotizing papillitis; 3) Urothelial thrush without parenchymal involvement, possibly an extension of cystitis; and 4) *Candida* superimposed on chronic bacterial pyelonephritis with urothelial and parenchymal involvement.[6]

The patient presented above appears to have primary infection with both urothelial and parenchymal involvement probably resulting from ascending infection. The symptoms of flank pain, fever and chills with pyuria, passage of fungus balls, heavy *Candida* growth from upper urinary tract urine, and positive *Candida* precipitins in the serum are consistent with the diagnosis. Tennant *et al.* reviewed 11 patients with adult primary renal candidiasis and found flank pain present in 81%, fever in 50%, and dysuria in 36%.[5] Underlying renal pathology was present in 63% and included renal calculi, bacterial pyelonephritis, and Kimmelstiel-Wilson kidney. Pure growths of *Candida albicans* from catheterized urine specimens were obtained in all but one patient.

Although not present in our patient, progressive oliguria alternating with episodes of diuresis, acute or progressive renal failure, and rarely gross hematuria have been reported as presenting signs of the infection.[6-8]

Usual radiologic findings in primary renal candidiasis include hydronephrosis, caliceal erosion, radiolucent filling defects in the renal pelvis and ureter from fungus balls, and intramural scalloping produced by submucosal edema as shown by either intravenous or retrograde pyelography.[9] Early in our patient's course intravenous pyelography demonstrated transient distal ureteral obstruction with hydroureter which may have cleared when retrograde catheters dislodged a fungus ball. The gallium radionuclide scan was especially helpful in estimating location and extent of disease and following the results of therapy. To our knowledge, there have been no previous reports of utilizing the gallium scan in the diagnosis of renal candidiasis.

Since candidemia and fatal disseminated candidiasis may result from primary renal candidiasis, vigorous treatment with Amphotericin B has been advocated.[5] Our patient received a relatively small cumulative dose of intravenous Amphotericin B to avoid complications of nephrotoxicity and perhaps worsened pancytopenia. The efficacy of small, less toxic doses of Amphotericin B over short periods of time in the treatment of severe *Candida* infections, excluding meningitis and endocarditis, has been previously established.[10] In this case, endpoints of treatment were resolution of pyuria and sterile urine cultures with confirmation of therapeutic success supported by clearance of renal uptake on the gallium scan.

In conclusion, primary renal candidiasis should be considered in the immunocompromised patient with the appropriate complex of symptoms, significant candiduria, *Candida* precipitins antibodies in the serum, absence of candidemia and some or all of the previously mentioned radiological abnormalities. More invasive approaches to obtain a diagnosis are probably unnecessary and because the majority of these patients are already chronically ill, perhaps not worth the risk. Renal candidiasis must also be considered in the differential diagnosis of chronic "sterile pyuria" along with renal tuberculosis.

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Inspiratory Paradoxical Septal Motion with Pulsus Paradoxus in Chronic Obstructive Pulmonary Disease

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ABSTRACT—A 70-year-old man with an acute exacerbation of chronic obstructive pulmonary disease had a pulsus paradoxus of 24 mm. Hg. without a pericardial effusion or massive pulmonary embolism. An echocardiogram during inspiration revealed paradoxical septal motion and an increase in right and decrease in left ventricular dimension, diminished mitral and accentuated tricuspid flow and diminished aortic flow and left ventricular posterior wall contractility.

The mechanism of paradoxical septal motion in right ventricular volume overload states has been extensively investigated. The echocardiographic and hemodynamic correlates of pulses paradoxus have also been reported. The echocardiogram reported here adds insight into both phenomena and is unique in demonstrating inspiratory paradoxical septal motion and tricuspid valve

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diastolic changes in an acute exacerbation of chronic obstructive pulmonary disease with pulsus paradoxus.

Case Report

A 78 year-old man was admitted with progressive exertional dyspnea and ankle swelling. He had a history of chronic bronchitis secondary to cigarette smoking. On physical exam he was tachypneic and cyanotic with: a paradoxical pulse of 24 mm. Hg., neck vein elevation of 5 cm., bilateral inspiratory rales, an S_3 gallop, hepatomegaly with positive hepatojugular reflux and 4+ ankle edema. An electrocardiogram revealed right axis deviation and early transition. Blood gases showed pH 7.42, pO_2 34 mm. Hg. and pCO_2 56 mm. Hg. Chest x-ray revealed overinflated lung fields and mild pulmonary vascular congestion. Hematocrit was 55 percent. A radioactive labelled fibrinogen scan was negative for thrombophlebitis. The patient recovered uneventfully on digoxin, furosemide, supplemental oxygen, bronchodilators, pulmonary toilet and ampicillin.

An echocardiogram obtained when the pulsus paradoxus was 24 mm. Hg. revealed the following: During inspiration the septal motion was paradoxical with an increase in right ventricular end diastolic dimension to 34 mm. and a decrease in left ventricular end diastolic dimension to 32 mm. On expiration the right ventricular end diastolic dimension diminished to 13 mm. and the left ventricular end diastolic dimension increased to 48 mm. with normalization of septal motion (see Figure 1). The right ventricular end diastolic dimension to left ventricular end diastolic dimension ratio[1] and septal position ratio[2] during inspiration were 1.13 and 0.51 respectively and during expiration 0.27 and 0.32. The mitral valve EF slope was 26 mm. -sec on inspiration (I) and 68 mm. - sec on expiration (E), mitral valve DE excursion 14 mm. (I) and 22 mm. (E) (Figure 2), aortic valve leaflet separation 8 mm. (I) and 18 mm. (E), aortic ejection time 280 mm. - sec. (I) and 300 mm. sec. (E) (see Figure 3), tricuspid EF slope 44 mm. - sec. (I) and 13 mm. - sec. (E), tricuspid DE excursion 22 mm. (I) and 15 mm. (E) (see Figure 4), left ventricular posterior endocardial wall rate of rise 41 mm. - sec. (I) and 73 mm. - sec. (E) (see Figure 1).

PARADOXICAL SEPTAL MOTION
PULSUS PARADOXUS
LEFT VENTRICULAR COMPLIANCE
ECHOCARDIOGRAPHY IN CHRONIC OBSTRUCTIVE LUNG DISEASE

An echocardiogram obtained during an acute exacerbation of chronic obstructive lung disease adds insight into the mechanism of pulsus paradoxus and paradoxical septal motion. With each inspiration right ventricular volume was augmented and paradoxical septal motion occured. Concomitantly left ventricular filling diminished and systolic pressure dropped 24 mm Hg. These observations suggest that septal motion is determined by relative right and left ventricular volumes and that in chronic obstructive lung disease with inspiratory augmentation of right ventricular filling the paradoxical septal motion induced diminishes left ventricular compliance and filling and consequently ejection causing a pulsus paradoxus.

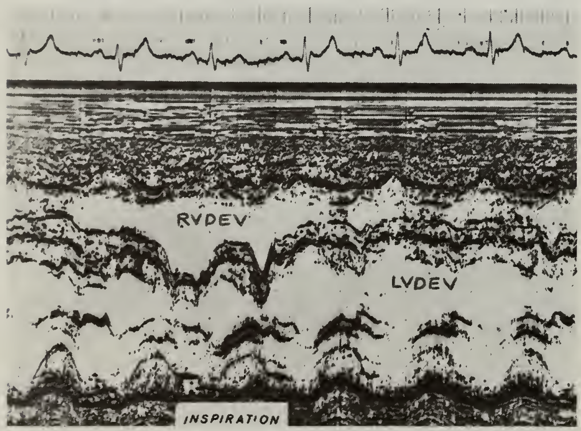

Figure 1
The apical echogram shows in inspiratory increase in the RVEDD (right ventricular end diastolic dimension) with the development of paradoxical septal motion and decreased LVEDD (left ventricular end diastolic dimension). The posterior left ventricular wall rate of rise diminished with diminished left ventricular filling (complex 3).

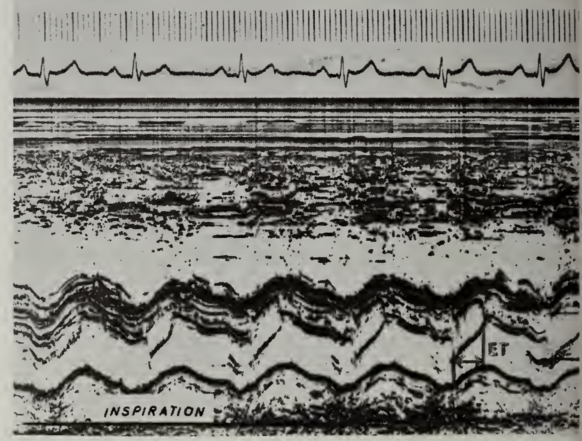

Figure 2
The mitral valve echogram shows an inspiratory decrease in the mitral valve DE amplitude and EF slope (complexes 2,3). Parameters normalize on expiration (complexes 1,4,5).

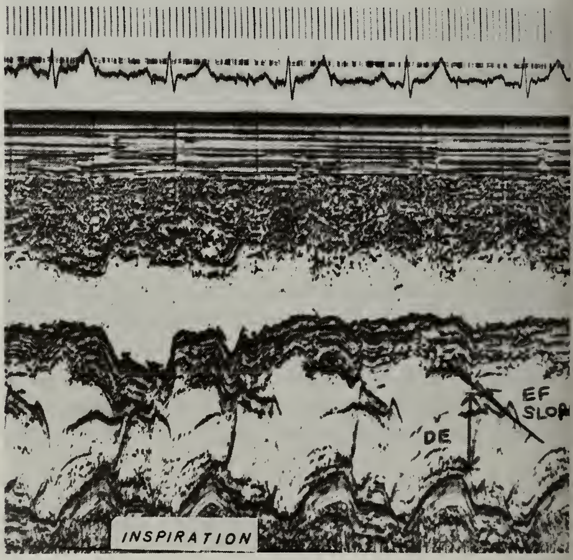

Figure 3
The aortic valve echogram shows diminished systolic ALS (aortic leaflet separation) and diminished ET (ejection time) during inspiration (complexes 1,2,3).

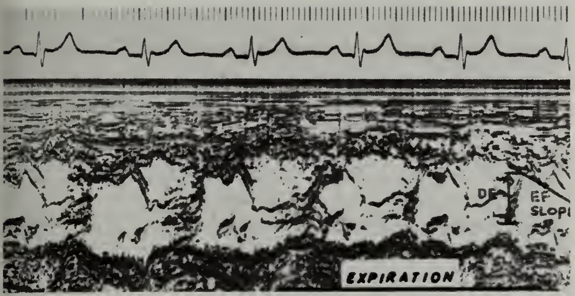

Figure 4
The tricuspid valve echogram shows an inspiratory increase in the tricuspid valve DE amplitude and EF slope (complexes 1,2,3 and 6).

Discussion

Paradoxical septal motion in right ventricular volume overload: Paradoxical septal motion was initially described in patients with atrial septal defect [3,4] and its relationship to increased right ventricular end diastolic dimension was demonstrated before and after surgical correction.[5,6] Experimentally paradoxical septal motion was induced in dogs with right atrial shunt flows greater than 500 cc/min. and promptly reversed when shunt flow decreased. The concept has evolved that the septum moves toward the center of the total ventricular mass and investigators have derived empirical indices which predict paradoxical septal motion in the absence of ventricular activation and contraction abnormalities using either the right ventricular end diastolic dimension to left ventricular end diastolic dimension ratio[1] or the end diastolic midseptal position.[2] The current echocardiogram confirms the validity of these predictive indices by showing paradoxical septal motion with each inspiratory increase in right ventricular end diastolic dimension and decrease in left ventricular end diastolic dimension and normalization of septal motion as the ventricular end diastolic volumes normalize with expiration (Figure 1).

Left ventricular compliance in right ventricular volume overload: Left ventricular volume and distensibility are diminished in atrial septal defect patients[8] and in infants with total anomalous pulmonary venous connection.[9] Experimentally [10,11,12] in dogs with an intact pericardium right ventricular volume overload affects left ventricular pressure-volume curves. The septal position and its influence on left ventricular volume are determined by right ventricular filling pressures and diastolic volumes. The current echocardiogram shows an inspiratory decrease in the mitral valve slope[13] associated with a diminished left ventricular end diastolic dimension supporting the concept that right ventricular volume overload and paradoxical septal motion diminish left ventricular compliance.

Pulsus Paradoxus: Since the first description of pulsus paradoxus[14] thee observations have been advanced to explain its genesis:

1. A delay in transmission of augmented right ventricular stroke volume to the left heart.[15]
2. A decrease in aortic blood flow and pressure secondary to direct transmission of negative inspiratory intrathoracic pressure to the aorta[16] and
3. A post apneic inspiratory diminution of left ventricular stroke volume secondary to intrapulmonary inspiratory pooling of blood.[17]

An inspiratory increase in right ventricular filling[18] and decrease in left ventricular filling[17] have been shown in pulsus paradoxus. In asthmatics pulsus paradoxus has been correlated with pulmonary function obstructive indices suggesting that distended lung volumes may restrict total ventricular filling.[19] Hemodynamic data in Cardiac Tamponade[20] has elucidated two conditions required for the production of pulsus paradoxus.

1. The filling of both ventricles against a common stiffness and
2. A respiratory change in pulmonary and venous pressure alternately favoring right and left ventricular filling.

The current echocardiogram demonstrates an inspiratory increase in tricuspid flow[21] and right ventricular end diastolic dimension suggesting inspiratory augmentation of right ventricular filling. The resultant shift in the center of total ventricular mass leads to paradoxical septal motion with diminished left ventricular filling at least in part secondary to diminished left ventricular compliance as inferred from diminished mitral flow.[13] The diminished left ventricular filling results in diminished left ventricular contractility as suggested by decreased posterior left ventricular wall rate of rise[22] and diminished aortic flow and ejection time.[23, 24] This is associated with a 24 mm Hg drop in inspiratory systolic pressure. During expiration right ventricular volume overload resolves resulting in the reversal of the postulated hemodynamic disturbance and an increase in systolic blood pressure.

Summary

This report reconfirms echocardiographic findings previously seen in pulsus paradoxus.[25,26,27,28] It suggests that inspiratory augmentation of right ventricular volume leads to paradoxical septal motion which diminishes left ventricular compliance and results in an inspiratory decrease in left ventricular stroke volume. This may be at least one mechanism by which an acute exacerbation of chronic obstructive lung disease may induce pulsus paradoxus.

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Strangulated Appendix in an Incarcerated Inguinal Hernia Reduced "En Masse"

ANDREW P. OWENS, M.D. AND MICHAEL E. OPALAK, M.D.

ABSTRACT—"En Masse" hernia reduction is a rare complication of inguinal hernias. We recently treated a patient with that condition and have reviewed the surgical literature. The diagnosis is difficult because of the apparent successful reduction of the hernia. Other reports from the literature are discussed.

Introduction

"En Masse" reduction of an inguinal hernia has been described as a hernia that has been reduced so that it no longer appears in the inguinal canal, though the hernia sac still retains its contents incarcerated in the dislocated position below the fascia of the abdominal wall.[1]

Hernia reduction "en masse" is in itself a very rare occurrence, but an "en masse" reduction of an incarcerated appendix is even less frequent. We have diagnosed and treated a patient who had an "en masse" reduction of an incarcerated appendix at Bridgeport Hospital.

Case Report

The patient is a 51 year old man who had been complaining of right groin pain for two days prior to admission. He found a previously known inguinal hernia to be irreducible on the morning of admission. (Figures 1 and 2) There was no nausea or vomiting. There was no distention and his bowels had moved that morning.

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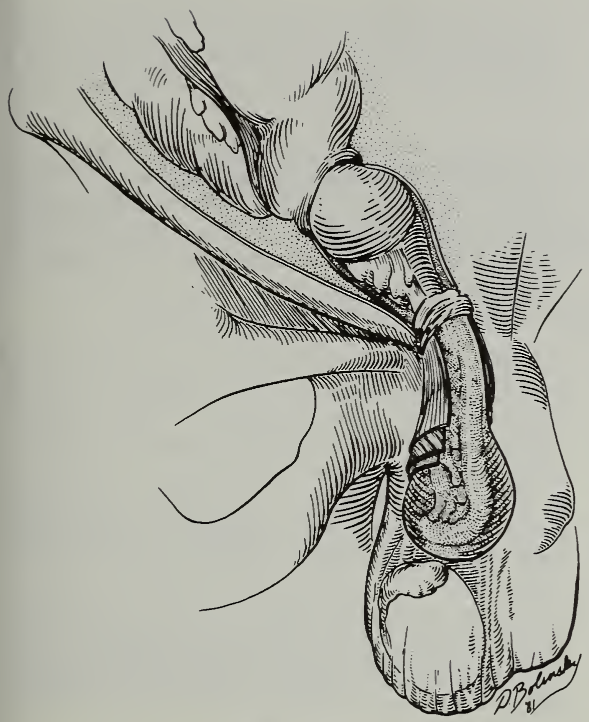

Figure 1
Appendix incarcerated and strangulated in its scrotal position.

His past medical history revealed an extensive myocardial infarction three years earlier. Therefore, he had not considered surgical correction of his known hernia. He had worn a truss for one and a half years.

The patient consulted the attending surgeon on the day of admission, and an apparently successful manual reduction of the hernia and its contents was performed. However, shortly after standing, the patient suddenly noted the reappearance of the hernia and the return of the pain, and a diagnosis of a probably "en masse" reduction was made. The patient was then referred to this institution.

Upon admission, the patient complained of severe pain in his right groin. His abdomen was moderately distended. There was notable tenderness over a mass in the right groin, with rebound tenderness during palpation of both lower quadrants. There was no tympanny, bowel sounds were perceived.

An x-ray of the abdomen was read as normal. The laboratory results included a WBC of 12,500. The remainder of the lab. results were normal.

The patient was taken to the operating room within a few hours of admission. An edematous and tense sac was found and incised, revealing a gangrenous appendix strangulated within the sac. The sac remianed outside the inguinal ring. An appendectomy was carried out, followed by complete reduction and repair of the hernia. An illustration of the appendix is provided. (Figure 3)

The pathologist reported that the specimen consisted of an inflammatory hernial sac, a gangrenous appendix, and an organizing peri-appendicitis. The post-operative course was benign, and the patient was discharged on the 5th postoperative day without any complications. Antibiotics were administered pre and postoperatively.

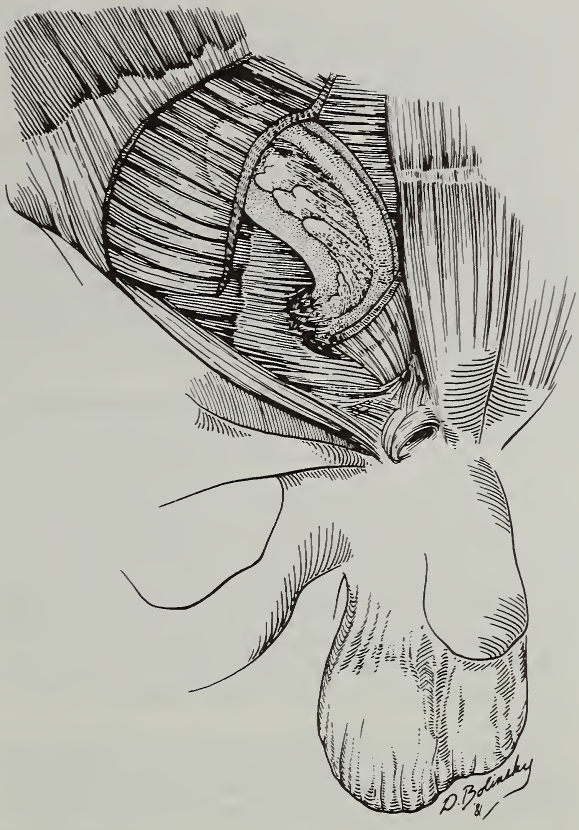

Figure 2
Strangulated appendix in position anatomically most likely after "Reduction en masse". Since, in this case, spontaneous reappearance occurred, its actual interim position could not be verified.

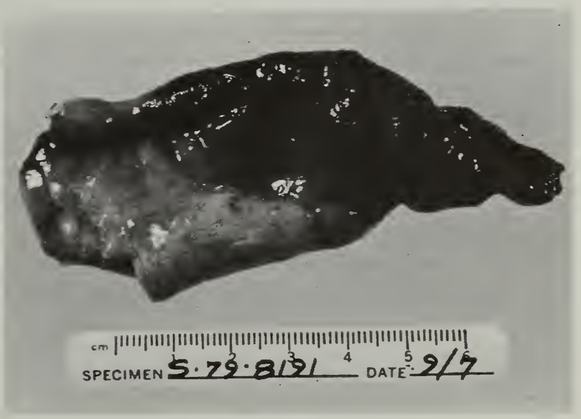

Figure 3
Strangulated appendix (gross specimen).

Discussion

Though appendicitis is the most common acute surgical condition of the abdomen,[3] and though inguinal hernias are both widespread (5% of total male adult population)[4] and their strangulation a relatively frequent occurrence, their association has been infrequently reported in the literature.

Abu-Dalu and Urca[5] in a review of the literature made in 1972, considered that acute appendicitis occurring in inguinal hernias account for only 0.13% of all causes of acute appendicitis. Carey, in 1967[6] reviewing various cases of acute appendicitis, noted that 1% of all appendicitis at his institution were found to lie in a hernia sac.

Past publications of "en masse" reductions are few and far between. In 1977, Nyhus et al.[2] presented a case of a reduction "en masse" following which the patient continued to show evidence of obstruction of the ileum without visable recurrence of the hernia. The patient's vital signs remained stable and benign for 24 hours, between admission and operation. At that point, a bowel resection was carried out in conjunction with a hernia repair.

In 1969, Querna[1] had presented three cases of hernia reduction "en masse" which he had treated personally over 33 years. Two of the cases presented had hernias of the inguinal canal; the third a strangulated femoral hernia. He noted that reduction "en masse" of a hernia is said to occur once in every 13,000 inguinal or femoral hernias. He suggested that the possibility of a reduction "en masse" should be considered after the reduction of any hernia. The diagnosis is made from a history of cramping pain after apparent successful reduction of an incarcerated hernia. Local signs may be negative.

Neither of these authors cited above mentioned the presence of any elements other than small bowel in the sac.

M.N. Sroufi and L. Buck[7] in 1978 studied the presentation of the appendix in inguinal hernia sacs, which occurs three times more frequently in infants than in adults. Incarceration of inguinal hernias is also more frequent in the first few months of life. They noted that a significant number of reported cases of neonatal appendicitis are associated with those hernias, with or without incarceration, which might cause an increase of circumferential pressure in the appendix, with luminal obstruction and varying degrees of strangulation leading to varying degrees of pathological findings. They performed an appendectomy and hernia repair through the same incision.

In 1970, Weinstein[8] presented a case of a 71 year old man with an incarcerated, but not strangulated appendix. An appendectomy was carried out through the same incision as the repair, which the author thought was a debatable point. There was no note of appendicitis per se.

Another publication, already referred to above,[6] by Carey, deals with ten cases of appendicitis occurring in hernias. He pointed to the fact that none of the patients presented had any specific symptoms which would be clearly indicative of the presence of the appendix within the hernial sac.

Conclusions

This case illustrates that a manual reduction, even if successful, may prove to have reduced a sac still containing bowel, the appendix, or other elements whose viability has been compromised. To our knowledge, the occurrence we present has gone unreported in the surgical literature. This patient's incarcerated hernia, which contained a gangrenous appendix, had been reduced "en masse" only three hours prior to surgery.

We believe that it was extremely fortunate that the hernia reappeared with its pre-reduction characteristics so soon after the original, apparently successful, maneuver.

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Torsade De Pointes: An Atypical Form of Ventricular Tachycardia

JOSE C. MISSRI, M.D. AND SAMUEL J. SHUBROOKS, JR., M.D.

ABSTRACT—Episodes of marked ventricular ectopy are described in a man with rheumatic heart disease, pulmonary sarcoidosis, and a severe cardiomyopathy. Runs of ventricular tachycardia and ventricular fibrillation appeared clearly exacerbated by quinidine and procainamide, and were prevented by treatment with digoxin and diphenylhydantoin. This arrhythmia fit the description of "torsade de pointes", (twisted point) a form of ventricular tachycardia which consists of alternation in QRS polarity and association with prolongation of ventricular repolarization. The diagnosis and therapeutic implications of this entity are discussed.

Introduction

In 1966 Dessertenne[1] characterized an unusual form of ventricular tachycardia which he termed *torsade de pointes.* The atypical aspects of this rhythm consist of oscillations of the QRS polarity over runs of 3-20 beats associated with prolongation of ventricular repolarization and initiation by a relatively late ventricular extrasystole. Krikler and Curry[2] have recently reviewed the features of *torsade de pointes,* but this arrhythmia has just recently been emphasized as such in the American literature.

Because of its etiologic and therapeutic implications, this form of ventricular tachycardia should probably be treated as a separate arrhythmia. We, herein, describe a patient demonstrating *torsade de pointes* with emphasis on important diagnostic and therapeutic considerations.

Case Report

A 41 year old man with a past history of rheumatic fever and pulmonary sarcoidosis was admitted to another hospital with a one month history of slowly progressive dyspnea on exertion culminating in an episode of severe nocturnal dyspnea. He gave no history of chest pain. On admission he was noted to be in pulmonary edema. The electrocardiogram revealed rapid atrial fibrillation with only nonspecific ST-T wave abnormalities. He improved with digoxin and furosemide. Serial cardiac enzymes remained normal. On the third day he developed a run of ventricular tachycardia and was started on lidocaine followed by quinidine sulfate 300 mg. every 6 hours. Three weeks later, because of persistent severe weakness and occasional ventricular premature beats with one unmonitored episode of loss of consciousness, he was transferred to the New England Deaconess Hospital.

On admission he was extremely lethargic but with no evidence of congestive heart failure. The first heart sound was loud and the second heart sound was normal. A loud opening snap of the mitral valve and a soft, short diastolic rumble were heard. The remainder of the physical examination was unremarkable. The electrocardiogram showed atrial fibrillation with well controlled ventricular response and nonspecific ST-T wave changes compatible with digitalis. The chest x-ray showed cardiomegaly and an echocardiogram revealed left ventricular, left atrial, and right ventricular enlargement and evidence of mild mitral stenosis. Serum electrolytes, cardiac enzymes, and blood gases were all within normal limits. A serum digoxin level was 1.0 ng/ml. Quinidine sulfate 200 mg. every 6 hours was continued. Six days following admission he had a run of ventricular tachycardia progressing to ventricular fibrillation converting after chest thumps to sinus rhythm. Lidocaine was started and the quinidine dose was increased, but this was followed 1½ hours after a 300 mg. dose by another episode of ventricular tachycardia and fibrillation requiring electrical countershock. Quinidine was then replaced by procainamide at doses increasing from 250 to 500 mg. every 4 hours, but he continued to experience episodes of ventricular tachycardia. Electrolytes and arterial blood gases remained normal at the times of these arrhythmias. On one occasion, it was observed that the beat immediately preceding the ventricular tachycardia showed QT interval lengthening and that there was alternation of the QRS polarity during the run of ventricular tachycardia which subsided spontaneously (Figure 1). Because of this observation, the procainamide was discontinued and dephenylhydantoin 100 mg. every 6 hours was begun. No further episodes of ventricular tachycardia occurred. Cardiac catheterization at this time revealed mild mitral stenosis and left ventricular dysfunction with diffuse hypokinesis and a left ventricular ejection fraction of

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34%. The coronary arteries were normal. Electrocardiographic monitoring continued to show periods of frequent ventricular premature beats which were usually unifocal with occasional couplets but no further runs of ventricular tachycardia. Six months later, he continues to do well on treatment with digoxin, furosemide, and diphenylhydantoin.

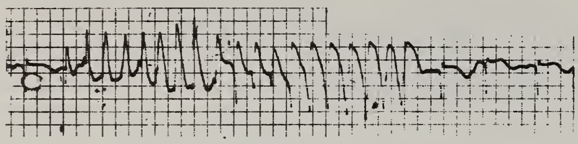

Figure 1
Rhythm strip showing *torsade de pointes.* The first beat is a sinus beat with a prolonged QT interval followed by a late ventricular extrasystole falling on the U-wave initiating a burst of ventricular tachycardia with a change in polarity after the first nine beats. Sinus beats preceding and following this sequence demonstrated slight QT prolongation.

Discussion

Our patient demonstrates many of the reported diagnostic features of *torsade de pointes.* The QRS axis alternates in polarity during the period of ventricular tachycardia. The initiating ventricular extrasystole is usually late in the cycle, and often the QT interval of the sinus beat preceding the tachycardia is prolonged. Paroxysms of ventricular tachycardia may be brief and terminate spontaneously or prolonged and progress to ventricular fibrillation.

The pathophysiological basis of *torsade de pointes* is unknown. Histologic studies in two cases in which the conduction system was studied demonstrated widespread uneven damage to the conducting system, including the atrioventricular node, the bundle of HIS, and both bundle branches without a complete disruption of the conducting pathway at any point.[3] These findings were interpreted as consistent with a desynchronization of ventricular activation favoring development of re-entry pathways. However, both these patients demonstrated intermittent electrocardiographic evidence of atrioventricular and bundle branch conduction disturbances and although such changes have been associated with *torsade de pointes* they are not uniformly seen, as in our case.

Numerous etiologies of *torsade de pointes* have been reported in the literature on the basis of individual case reports. These include congenital prolongation of the QT interval,[4] presence of high-grade atrioventricular or sinoatrial block, hypokalemia, hypomagnesemia, myocardial infarction and ischemia,[5] myocarditis,[2] quinidine and lidocaine, [2] phenothiazines and tricyclic antidepressants,[6] liquid protein diets,[7] disopyramide,[8] and arsenic intoxication.[9] Our patient demonstrated only mild mitral stenosis with severe left ventricular dysfunction of uncertain etiology. He did also have a past history of pulmonary sarcoidosis which has been reported to be associated with severe ventricular tachyarrhythmias.[10] His episodes of ventricular tachycardia and fibrillation, however, appeared clearly related to quinidine and procainamide administration.

The management of this arrhythmia is based on its early recognition, correction of any identifiable underlying etiology, and direct current countershock when necessary. The use of isoproternol and right atrial pacing have been suggested[2] to shorten repolarization and permit less opportunity for asynchronous depolarization and re-entry mechanisms. Although the use of diphenylhydantoin has been suggested in patients with QT prolongation syndromes because of its effect on shortening repolarization, to our knowledge it has not been previously described for treatment of *torsade de pointes.* Our patient's life-threatening arrhythmias appeared to be benefited by use of this drug as well as by discontinuing quinidine and procainamide. The adverse effects of the latter drugs should be strongly considered in patients demonstrating this arrhythmia.

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Important Advances in Clinical Medicine

Epitomes of Progress — Chest Diseases

Immunization Against Lung Infections

Pulmonary infections remain an important cause of morbidity and mortality in patients with chronic cardiac or pulmonary disease and certain other conditions. Immunization is available against influenza virus and pneumococci, two of the most common pulmonary pathogens.

Influenza vaccine, available since the 1940's, is made from representative strains of influenza A and B virus grown in embryonated eggs and then chemically inactivated. Recent advances in vaccine production include (1) enhanced yields of vaccine virus by genetic recombination, (2) purification of vaccine virus by zonal centrifugation, which reduces side effects, (3) development of a subvirion ("split-virus") vaccine that contains detergent-disrupted virions and lessened side effects and (4) development of a rational standardization procedure for the vaccine based on content of a specific virus protein, hemagglutinin, which is well correlated with antigenicity in humans.

Influenza vaccine is 70 percent to 80 percent effective in preventing influenza and is indicated annually (generally in the fall) for those with a high risk of serious complications from influenza. Patients with physiologically significant cardiac or pulmonary disease as well as those with azotemia, chronic anemia and certain other conditions should be immunized. The vaccine is also recommended for healthy persons 65 years and older. Split-virus vaccine should be used for children because it has a lower incidence of side effects than whole-virus vaccines in this age group. Influenza vaccine is a safe product; specifically, the increased incidence of Guillain-Barré syndrome following swine influenza immunization has not been seen with the present product, despite intensive monitoring.

Pneumococcal vaccine also was first used clinically in the 1940's but was withdrawn from the market when penicillin became widely available. The present pneumococcal vaccine is a mixture of purified polysaccharides from the 14 most common pneumococcal serotypes. In field trials it is about 80 percent effective in preventing pneumonia due to homologous types and about 50 percent to 60 percent effective in preventing pneumococcal pneumonia overall. Comparable efficacy was observed in preventing more serious infections in asplenic children. It is likely that the vaccine will be effective against pneumococcal infections in other sites as well, although this has not been documented as yet. One retrospective epidemiologic study, however, failed to show efficacy in young children (aged 2 to 10) or high-risk adults, although the vaccine was protective in other patient groups.

Pneumococcal vaccine is indicated for immunization of patients at high risk of pneumococcal infection, including candidates for influenza vaccine, functionally asplenic patients (such as patients with sickling hemoglobinopathies) and selected other patients at high risk of pneumococcal infections (such as recurrent otitis media or nephrotic syndrome). Patients in closed communities (for example, nursing homes) are at increased risk of pneumococcal infection, and use of the vaccine should be considered in this setting as well. Unfortunately, this and other polysaccharide vaccines are relatively nonimmunogenic and ineffective in children younger than two years of age. The reimmunization interval has not been finally established but will probably be no more often than every five years. Toxicity has been mild and infrequent.

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Small Cell Carcinomas of the Lung

Approximately 8 percent to 15 percent of all types of primary lung cancer are of the small cell variety. They are characterized by aggressive clinical behavior and histological features that suggest their derivation from neuroectodermal tissue.

Fewer than 5 percent of these small cell tumors are detected at an asymptomatic stage; they typically grow very rapidly and metastasize early and widely—underlining the importance of establishing a histological diagnosis in patients suspected of having this disease. This can usually be achieved by means of sputum cytology, bronchoscopy, mediastinoscopy or aspiration needle biopsy.

Because of the tumor's rapid growth, results after resection are poor, and this type of malignancy is generally considered to be inoperable at any stage. However, relative success has been reported with nonsurgical therapy. Small cell types of cancer typically respond to combination of chemotherapy given with or without radiation. Numerous therapy programs have shown good results, with survival of patients having been extended for several months and, in some cases, years. A "best" therapy has not yet been established.

Recently, interest has returned to surgical intervention as adjuvant therapy wherein the primary lesions are removed as part of a chemotherapy program. Because these are active and important areas of clinical investigation, patients should be treated in one of many centers where the results of various approaches can be evaluated.

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Aspiration Pneumonitis

The aspiration of stomach contents can lead to serious consequences in patients with altered states of consciousness or abnormalities of swallowing or in those undergoing anesthesia.

Substantial quantities of fluid aspirated into the lung can cause acute respiratory decompensation. If the fluid pH is greater than 2.5, is free of food particles and is isotonic, recovery is likely. If it has a pH of less than 2.5, is hypertonic and contains food particles or nonparticulate food substances, a progressive inflammatory reaction may develop. Acid aspirates produce the greatest anatomic and physiological harm.

The causative role of infection remains unclear. If necrotizing pneumonia, lung abscess or empyema develops, then a heavily infected inoculum was probably aspirated. In patients not in hospital, the organisms are usually anaerobes; whereas, facultative anaerobes (Gram-negative rods) and aerobes are predominant in patients in hospital. A delayed infection may develop in some patients and is probably due to contamination of the chemically damaged lung by artificial airways, suction and mechanical ventilatory apparatus. *Pseudomonas aeruginosa* and *Staphylococcus aureus* are frequent isolates in these circumstances. There is no characteristic radiographic pattern in this disease. Severe hypoxemia is the predominant gas-exchange alteration.

In a surgical patient the preoperative administration of 400 to 600 mg of cimetidine has been described as a useful tool to lower the risk of aspiration pneumonitis.

Endotracheal suctioning is an important initial therapeutic step. Because the aspirated material is rarely entirely removed, other therapeutic measures are also required. Bronchoscopy should be done on anyone who has aspirated particulate matter, especially if there is clinical or radiologic evidence of segmental loss in lung volume. Routine bronchial lavage with neutral or alkaline solutions is not effective, and the use of corticosteroids remains controversial. Although prophylactic antibiotics have been advocated, their effectiveness is doubtful because their use has demonstrated no proved benefit on ultimate outcome. A more logical approach is to closely monitor the patient for clinical and bacteriologic evidence of infection using uncontaminated specimens of tracheal aspirates.

When the patient's hypoxemia can no longer be corrected without using toxic levels of oxygen, positive end-expiratory pressure should be instituted. The actual level of pressure required will vary with each patient, but levels as high as 30 cm of water occasionally have been necessary. Barotrauma, such as pneumothorax, and impaired cardiovascular function should be anticipated and, when present, appropriately treated.

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Long-term Use of Oxygen Therapy

Outpatient oxygen therapy (OPOT) has improved the survival rate and neuropsychological function, as well as lowering pulmonary hypertension and erythrocytosis, in selected patients with hypoxemic chronic obstructive pulmonary disease (COPD). Continuous (21 to 24 hours per day) OPOT reduces mortality substantially as compared with the 12-hour (per day) regimen. Treatment programs providing less than 12 hours a day of OPOT have no proven benefit except for relieving subjective symptoms or improving exercise tolerance while the patient is breathing oxygen.

In most patients with COPD, improvement of hypoxemia will occur once pulmonary or cardiopulmonary exacerbations are properly treated. Short-term oxygen therapy is used during exacerbations until resting arterial oxygen exceeds 55 to 60 mm of mercury. When the patient's condition has been stable for a month following discharge from hospital, a decision regarding long-term OPOT should be made. Cor pulmonale, erythrocytosis, mental changes and sleep disorders are clues to possible persistent hypoxemia and a need for OPOT; however, these may be lacking or unrecognized.

Obtaining arterial blood gas measurements on several occasions during a one-month stability period will aid the prescriber in determining whether long-term OPOT is needed.

In selected COPD patients, OPOT will improve exercise tolerance. Most patients will COPD have exercise limitations and breathlessness unrelated to hypoxemia. There are no conclusive studies as to whether chronically hypoxemic and stable patients with diseases other than COPD benefit in a similar manner or degree from long-term OPOT.

Proper patient selection is important because OPOT is expensive ($200 to $400 per month) and easily mistaken as a panacea. Stable outpatients with an arterial oxygen pressure (PaO_2) of 55 mm of mercury or less are considered candidates for OPOT. A patient with a PaO_2 of between 55 and 60 mm of mercury may be treated when cor pulmonale or erythrocytosis is present. The adequacy of the prescribed OPOT dose should be established every three to four months. Oxygen supplementation should provide a PaO_2 of 60 to 80 mm of mercury. Careful patient education, often underemphasized, is essential.

OPOT is usually administered during sleep because there is a greater likelihood of severe prolonged desaturation during this time. A small increment to the daytime flow rates often is necessary to maintain adequate sleep oxygenation.

Cost, convenience and familiarity are the determining factors for choice of OPOT equipment. When properly instructed and monitored, OPOT has proved to be safe, with rare and usually minor problems. The new oxygen concentrator systems have the advantage of necessitating fewer home visits by the supplier. A portable back-up system should augment the concentrator because the latter is not mobile and is subject to electrical power failures.

Long-term OPOT, although beneficial for selected hypoxemic patients, is only one component of a comprehensive outpatient care program to minimize the incidence of mortality, morbidity and admittance to hospital. Proper selection and education of patients as well as follow-up analyses will help to avoid financial waste, unrealistic expectations and poorly coordinated treatment regimens.

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Computed Tomography in Lung Disease

Computed tomographic (CT) scanning in patients with lung disease has proved useful in (1) detection and evaluation of solitary pulmonary nodules, (2) detection of pulmonary metastasis, (3) diagnosis and evaluation of vascular lung lesions, (4) distinguishing between pulmonary parenchymal and pleural processes, (5) the detection and evaluation of diffuse pulmonary disease and (6) carrying out percutaneous needle aspiration biopsy.

In general, CT is more sensitive than are plain radiographs or conventional tomograms in the detection of single or multiple pulmonary nodules. For this reason, CT is largely replacing conventional tomographic studies for the detection of nodular disease. In patients with a solitary nodule visible on plain radiographs, CT can be used to search for other nodules or associated mediastinal adenopathy; CT is also more sensitive in detecting mediastinal lesions. CT densitometry of solitary nodules may be of some value in distinguishing benign and malignant lesions, the presumption being that benign lesions often contain calcium invisible on plain radiographs but detectable by CT. In one study, excellent results were obtained by measuring the CT number of lung nodules detected. However, these results have been difficult to duplicate, and CT nodule densitometry, at this time, must be considered experimental or of limited clinical value.

Because of its enhanced sensitivity and ability to view the mediastinum, CT should replace other radiographic procedures in the detection of pulmonary metastasis in most cases.

Dynamic CT scanning following a bolus injection of contrast material can be used to diagnose and evaluate pulmonary vascular lesions, such as arteriovenous fistula, pulmonary vein varix and sequestration. However, vascular tumors (bronchial adenoma) sometimes may produce false-positive results. In some cases, CT may replace arteriography.

Because of its cross-sectional format, CT is ideally suited to the distinction of pulmonary parenchymal disease and pleural disease when plain chest radiographs are equivocal. However, although CT has been reported helpful in differentiating empyema and lung abscess, this distinction can be difficult.

CT is extremely sensitive in detecting subtle differences in density and can show pulmonary fibrosis in patients with various lung diseases (such as sarcoidosis or asbestosis) when plain chest radiographs show no abnormalities. Also, CT shows areas of decreased density (such as bullae or emphysema) better than other radiographic techniques.

Lastly, in patients with pulmonary lesions requiring percutaneous biopsy, CT can be extremely useful in needle placement and precise localization of the needle tip. By using CT, lesions in the lung that are close to vascular structures can be safely approached.

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Diagnosis and Management of Goodpasture's Syndrome

Goodpasture's syndrome involves a triad of glomerulonephritis, pulmonary hemorrhage and anti-glomerular basement membrane antibody (anti-GBM) production. The cause of this disorder is unknown, although some patients have a history of recent viral illness or exposure to volatile hydrocarbons. It is an uncommon but serious disorder in which a rapidly progressive, crescentic glomerulonephritis develops, which leads to uremia. Pulmonary hemorrhage in the syndrome may be lifethreatening, and evidence of its presence—that is, hemoptysis, infiltrates noted on x-ray films, reduced arterial oxygen tension, hemosiderin-laden macrophages and iron deficiency anemia—is found in 50 percent to 75 percent of cases. Increased pulmonary carbon monoxide uptake is present in nearly all patients, and is a sensitive test of pulmonary hemorrhage.

Goodpasture's syndrome must be distinguished from other causes of glomerulonephritis and pulmonary hemorrhage such as systemic lupus erythematosus or necrotizing vasculitis where tissue injury is mediated by immune complexes. Also, in patients with established renal failure, pulmonary hemorrhage caused by pneumonia, pulmonary emboli or a bleeding diathesis can develop. Accurate diagnosis depends on detection of circulating anti-GBM antibody, present in more than 90 percent of patients, by indirect immunofluorescence or radioimmunoassay and by kidney or lung biopsy and the demonstration of *linear* lgG deposits along the basement membrane. Absence of such *linear* IgG deposits in a kidney biopsy excludes the diagnosis of Goodpasture's syndrome. However, the reliability of lung biopsy findings has not been established and a negative study may not be definitive. Circulating anti-GBM antibody levels do not correlate with severity of clinical manifestations. If properly done, examination of serum for anti-GBM antibodies rarely gives false-positive results. While *linear* IgG deposits along the GBM in the kidney also occurs in diabetes and occasionally in other conditions, the use of proper immunofluorescence controls can usually aid in distinguishing between these conditions.

High doses (10 to 20 mg per kg of body weight) of methylprednisolone ("pulse therapy") and intensive plasma exchange (plasmapheresis) appear to represent important new treatments for pulmonary hemorrhage in Goodpasture's syndrome and have largely replaced the questionable practice of bilateral nephrectomy for life-threatening disease. Plasmapheresis will quickly reduce the level of circulating anti-GBM antibody. For severe pulmonary hemorrhage unresponsive to "pulse therapy," daily plasma exchanges (3 to 4 liters) may be done using semiautomated, gravity-sedimentation (centrifugation) techniques for separating formed elements from plasma. The removed plasma may be replaced with plasma protein fractions or fresh frozen plasma. Plasma exchange is combined with oral administration of prednisone (1 mg per kg of body weight per day), cyclophosphamide (2 mg per kg of body weight per day) and, in patients younger than 50, azathioprine (1 to 2 mg per kg of body weight per day). Daily or every-other-day exchanges are continued until there is clear evidence of clinical and laboratory improvement, and the drugs are administered for two to six months or longer. In most patients cessation of pulmonary hemorrhage occurs within 24 to 72 hours of initiating plasma exchange treatment. If renal failure is not advanced (serum creatinine < 6 mg per dl), renal function often stabilizes or improves. Infection must be scrupulously avoided because it may exacerbate the pulmonary hemorrhage and renal failure.

Surprisingly, anti-GBM antibody levels do not parallel the improvement and should not be used as a sole guide for treatment. Plasmapheresis is not a substitute for hemodialysis and both procedures may be carried out concurrently. Patients with advanced renal failure (serum creatinine levels greater than 10 mg per dl) and severe glomerular and tubulointerstitial lesions may not experience any improvement in renal function and may require maintenance hemodialysis. Renal transplantation is not contraindicated but should be deferred until anti-GBM antibody levels have decreased to low or undetectable levels. Recurrence of disease in the allograft may occur but usually is not severe enough to result in graft failure.

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Increased-Permeability Edema of the Lung

Of the two chief types of acute pulmonary edema—that due to increased pressure and that due to increased alveolar capillary barrier permeability (formerly called noncardiogenic edema)—the latter has been the focus of much clinical and experimental attention for three reasons: its rapid course, its development in otherwise healthy persons and an emerging understanding of its pathophysiology.

The chief clinical characteristics of increased-permeability edema are as follows: a specific inciting event, rapid time course, high edema fluid to plasma protein concentration ratio and pulmonary artery wedge pressure usually within the broad range of normal. Wedge pressure elevation does not preclude increased-permeability edema of the lung. Therefore, measurement of the wedge pressure may be helpful as a guide to treatment, but the absolute value by itself is not diagnostic. Some of the frequent causes of increased-permeability edema include traumatic shock, Gram-negative sepsis, microembolism, drug overdoses or idiosyncrasies, gastric acid aspiration, central nervous system dysfunction and high altitude.

Although this form of edema has diverse causes, much interest has focused on the role of circulating blood elements. Neutrophils in particular, but also platelets and fibrin, appear to be directly involved in the development of some types of increased-permeability edema.

Usually, the initiating event is of brief duration and is self-limited. Severe edema can occur with relatively modest injury to the lung's microcirculation; however, because the recuperative properties of the microvascular endothelium are great, supportive therapy often leads to quick recovery.

In patients at high risk, such as those with extensive body burns or those who have sustained serious trauma, pharmacologic doses of corticosteroids (30 mg per kg of body weight) appear to attenuate the subsequent injury process; however, there is no evidence that corticosteroids are useful after the edema process has developed.

There is no specific treatment for the developed injury, although it is obvious that the inciting process should be controlled or eliminated. Supportive therapy, in addition to adequate systemic oxygenation, involves manipulating the hydrostatic and colloid osmotic pressures that affect lung fluid balance. Positive end-expiratory pressure (PEEP) breathing with or without oxygen may be useful to expand the air spaces and increase arterial oxygenation, but it has little effect on lung fluid balance. Some investigators believe that high pressure PEEP may increase the edema. While protein or other colloid-containing fluids may be of value in hypoproteinemic patients when the microvascular barrier integrity is normal, they are not of value in treating increased-permeability edema during the acute phase. However, a patient who is hypoproteinemic may be helped by colloids, which act to extract fluid from noninjured tissues (including those portions of the lung that are not injured), thus maintaining circulating blood volume and cardiac output.

The most important point to remember in managing lung fluid balance is that the pressure that drives ventricular filling (cardiac output) is the same pressure that causes fluid to filter into the lung. The current trend is for less volume loading, direct measurement and control of cardiac output and afterload reduction to reduce ventricular filling pressure and the pressure in the pulmonary microcirculation.

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Respiratory Disturbances in Sleep

Two types of respiratory disturbances that occur in sleep are multiple episodes of apnea (cessation of ventilation for 10 seconds or more) and disordered breathing (such as apnea, decreased tidal volume or an irregular breathing rate) in patients with chronic obstructive pulmonary disease (COPD). Multiple apneas can lead to the sleep-apnea syndrome; disordered breathing can contribute to the morbidity and mortality of patients with COPD.

In patients with normal pulmonary function who have both excessive daytime sleepiness (EDS) and loud snoring during sleep, the sleep-apnea syndrome is a likely cause. Most such patients are male and obese; many have impotence, mild systemic hypertension and a change in personality, and a few have chronic cor pulmonale.

The sleep-apnea syndrome is confirmed by demonstrating 30 or more nocturnal episodes of apnea, some of which are repetitive during non-rapid-eye-movement sleep. This is best accomplished in a laboratory that is equipped to monitor and record at least eight hours of sleep, respiratory data and an electrocardiogram. The diagnosis is usually obvious, with hundreds of apneic episodes being recorded. Most apneas lead to a decrease in arterial oxygen saturation of 3 percent or more (usually much more). Further, sinus bradycardia almost always occurs, and asystole occasionally occurs during the apneas.

Apneic episodes can be classified into three types. Central apnea results from a disturbance of the central nervous system, which leads to cessation of respiratory muscular contraction. In peripheral (or obstructive) apnea, respiratory muscular efforts continue, but ventilation is prevented because the upper airway is completely occluded by flaccid soft tissues of the pharynx. In complete occlusion also occurs, which leads to snoring. Mixed apnea is central apnea followed by peripheral apnea in the same continuous apneic episode. Most patients with the sleep-apnea syndrome have peripheral and mixed apneas.

Treatment of the sleep-apnea syndrome can include loss of weight, oral administration of medroxyprogesterone acetate (10 to 20 mg three times a day), or both. These modalities are most effective in patients with cardiorespiratory failure and obesity (that is, the Pickwickian syndrome). Some patients with sleep apnea have oral or nasopharyngeal deformities (for example, enlarged adenoids). Correction of these deformities may relieve peripheral and mixed apneas.

Tracheostomy can be done to bypass the nocturnal occlusion of the upper airway, but this treatment should be reserved for patients with peripheral and mixed apneas who have disabling EDS, life-threatening arterial oxygen desaturation, or life-threatening sinus bradycardia or asystole. A tracheostomy can be done initially as an urgent form of treatment, but it is usually done after other therapy fails. When the tracheostomy tube is left open at night and closed during the day, remission of clinical findings is usually dramatic; however, if the tracheostomy is allowed to close at night, there is usually an immediate resumption of the sleep-apnea syndrome. Unlike severely symptomatic patients, mildly symptomatic patients may not require treatment.

Disordered breathing during sleep in patients with COPD can lead to life-threatening arterial oxygen desaturation and may contribute to chronic cor pulmonale. Arterial oxygen desaturation can be detected by nocturnal monitoring with an ear oximeter. Although not firmly established, the use of low-flow (1 to 2 liters per minute) oxygen during sleep has been recommended by many authorities because it benefits some COPD patients and usually has no obvious adverse effects.

Michael R. Littner, MD, FRCP(C)

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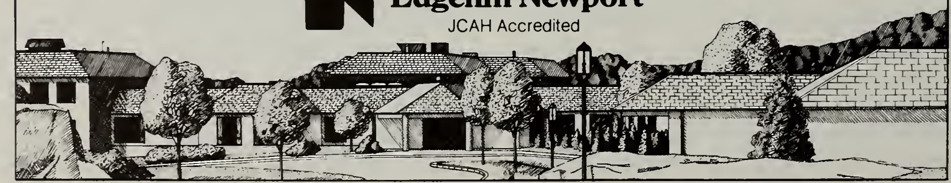

Peer Review Immunity

Memorandum of Decision

UNITED STATES DISTRICT COURT

DISTRICT OF CONNECTICUT

June 4, 1981

JAMES H. MORSE, Administrator
of the Estate of Philip Krause,
Plaintiff

vs. CIVIL NO. B-78-217

PAUL J. GERITY, M.D.
and PAUL J. GERITY, P.C.,
Defendant

Plaintiff served notice of a non-party deposition subpoena *duces tecum** on John Mirabito, Administrator of Lawrence & Memorial Hospital, requesting the production of certain documents concerning defendant, Paul J. Gerity, M.D. Mr. Mirabito moved to quash the subpoena on the ground that the documents are privileged under Conn. Gen. Stat §38-19a. Following an *in camera*** inspection of the materials, this Court held that Connecticut law governs the question of privilege with respect to the documents pertaining to peer review proceedings. Thereafter, the parties submitted briefs addressed to the scope of the privilege. Specifically, this Court raised *sua sponte* the question of whether the statute permits discovery of peer review proceedings unrelated to the subject matter of the instant suit—Dr. Gerity's treatment of Philip Krause. For the reasons herein set forth, this Court finds that the privilege applies to all peer review proceedings. Accordingly, the motion to quash is granted.

There are no judicial decisions, state or federal, in this district defining the scope of the peer review privilege as amended in 1980 by P.A. 80-446, which provides in relevant part that:

> The proceedings of a medical review committee conducting a peer review shall not be subject to discovery or introduction into evidence in any civil action for or against a health care provider arising out of the matters which are subject to evaluation and review by such committee.

The statutory language fails to specify whether there must be a connection between the civil action in which the discovery is sought and the subject matter under review by the committee in order to make the privilege applicable. Presumably, the pending civil action should involve the same doctor whose treatment of patients was under scrutiny by the review committee. What is not so clear is whether the privilege is meant to apply only as to review committee proceedings involving the individual patient who is now suing the doctor, or to all review proceedings in which the defendant doctor was ever involved. Confronted with such uncertainty, this Court looks to the legislative history and underlying policy for guidance as to the scope of the privilege.

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* Process whereby a person is ordered to present to the court for use during trial a specified document; or other personal property in his possession or his control.

** Any proceedings during a trial, held before a judge in his private chambers or in a courtroom cleared of the jury and all spectators, are said to be *in camera.*

EDITOR'S NOTE: Legal citations are deleted.

It is indisputable that the legislature enacted the privilege to encourage meaningful peer review by assuring the confidentiality of all proceedings conducted by a medical review committee. See Connecticut General Assembly, Judiciary Committee, Public Hearings (March 12, 1980, p. 561) (explanation of the Connecticut Hospital Association). This privilege has been regarded as a "proper legislative choice between the competing public concerns of fostering medical staff candor, on the one hand, and impairing medical malpractice plaintiffs' access to evidence, on the other hand." (Citation omitted.) Had the Connecticut legislature intended to limit the application of the privilege to peer review proceedings connected to a pending lawsuit, statutory language to that effect could easily have been drafted. Instead, the statute contains broad language, followed by only four enumerated exceptions to the privilege.*

Furthermore, although the privilege is not absolute, the legislative history and judicial decisions in other jurisdictions with similar statutes, although sparse, support a liberal interpretation both as a matter of statutory construction and public policy. (Citation omitted.) Indeed, if the purpose of the statute is to encourage doctors to evaluate their peers without fear of disclosure, that purpose would be hampered by public release of any proceedings, not just those involving the patient who has sued. The danger of inhibiting candid professional peer review exists by the mere potential for disclosure. Any possibility that proceedings might be discoverable at a future date in some unrelated patient suit presents a risk that a doctor will be reluctant to provide the meaningful peer review contemplated by the statute. The over-riding importance of these review committees to the medical profession and the public requires that doctors have unfettered freedom to evaluate their peers in an atmosphere of complete confidentiality. No chilling effect can be tolerated if the committees are to function effectively.

This Court therefore concludes that the legislature, to assure that the laudable goals of the peer review process are achieved, intended by the language of P.A. 80-446, to prohibit discovery of all peer review proceedings. Accordingly, Mr. Mirabito's motion to quash the production of materials on the grounds of privilege is granted. In so holding, this Court does not preclude plaintiff from employing other discovery devices to elicit in a different form any relevant information that may be contained in the privileged materials.

It is so Ordered.

COMMENTARY

In *Morse* v. *Gerity,* Civ. No. B-78-217, Judge Eginton of the U.S. District Court held that under Conn. Gen. Stat. §38-19a, all documents pertaining to hospital peer review proceedings are protected from discovery in a medical malpractice action brought against the physician whose treatment of patients was under scrutiny by the review committee. Plaintiff endeavored to subpoena a hospital's records of peer review proceedings concerning the defendant physician, who had staff privileges at the hospital. The hospital moved to quash the subpoena.

Judge Eginton reviewed the legislative history and policy underlying the peer review confidentiality statute, and found that the Connecticut legislature intended that physicians be encouraged to evaluate their peers candidly. Judge Eginton noted that "[t]he overriding importance of these review committees to the medical profession and the public requires that doctors have unfettered freedom to evaluate their peers in an atmosphere of complete confidentiality." The Court therefore concluded that *all* hospital peer review proceedings, including those of a physician's conduct unrelated to the alleged malpractice at issue in the lawsuit, were protected against discovery by the Connecticut statute. The Court granted the hospital's motion to quash the subpoena, and the hospital was not required to produce its documentary file of peer review proceedings concerning the physician.

Judge Eginton's decision is not binding on the state courts or on other federal judges. Moreover, the decision relates directly only to hospital peer review proceedings. However, the Court's analysis should provide strong support in favor of confidentiality of peer review records in other cases.

Linda L. Randell, Esq.

Wiggin & Dana, New Haven, CT
Legal Counsel to Connecticut State Medical Society

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* The statute does not preclude "(1) in any civil action, the use of any writing which was recorded independently of such proceedings; (2) in any civil action, the testimony of any person concerning the facts which formed the basis for the institution of such proceedings of which he had personal knowledge acquired independently of such proceedings; (3) in any health care provider proceedings concerning the termination or restriction of staff privileges, other than peer review, the use of data discussed or developed during peer review proceedings; or (4) in any civil action, disclosure of the fact that staff privileges were terminated or restricted, including the specific restrictions imposed, if any."

CHAPTER 675a

PEER REVIEW

Sec. 38-19a. (Formerly Sec. 52-197a). **Peer review:** Definitions; immunity; discovery permissible re proceedings.

(a) For the purposes of this section:

(i) "Health care provider" means any person, corporation, facility or institution licensed by this state to provide health care or professional services, or an officer, employee or agent thereof acting in the course and scope of his employment.

(ii) "Peer review" means the procedure for evaluation by health care professionals of the quality and efficiency of services ordered or performed by other health care professionals, including practice analysis, inpatient hospital and extended care facility utilization review, medical audit, ambulatory care review and claims review.

(iii) "Professional society" includes medical, psychological, nursing, dental, natureopathic, osteopathic, optometric, pharmaceutical, chiropractic and podiatric organizations having as members at least a majority of the eligible licentiates in the area or health care facility or agency served by the particular society.

(iv) "Medical review committee" shall include any committee of a state or local professional society or a committee of any health care institution established pursuant to written bylaws, and any utilization review committee established pursuant to Public Law 89-97, and a professional standards review organization or a statewide professional standards review council, established pursuant to Public Law 92-603, engaging in peer review, to gather and review information relating to the care and treatment of patients for the purposes of (1) evaluating and improving the quality of health care rendered; (2) reducing morbidity or mortality; or (3) establishing and enforcing guidelines designed to keep within reasonable bounds the cost of health care. It shall also mean any hospital board or committee reviewing the professional qualifications or activities of its medical staff or applicants for admission thereto.

(b) There shall be no monetary liability on the part of, and no cause of action for damages shall arise against, any person who provides testimony, information, records, documents, reports, proceedings, minutes or conclusions to any hospital, hospital medical staff, professional society, medical or dental school, professional licensing board or medical review committee when such communication is intended to aid in the evaluation of the qualifications, fitness or character of a health care provider and does not represent as true any matter not reasonably believed to be true.

(c) There shall be no monetary liability on the part of, and no cause of action for damages shall arise against, any member of a medical review committtee for any act or proceeding undertaken or performed within the scope of any such committee's functions provided that such member has taken action or made recommendations without malice and in the reasonable belief that the act or recommendation was warranted.

(d) The proceedings of a medical review committee conducting a peer review shall not be subject to discovery or introduction into evidence in any civil action for or against a health care provider arising out of the matters which are subject to evaluation and review by such committee, and no person who was in attendance at a meeting of such committee shall be permitted or required to testify in any such civil action as to the content of such proceedings; provided the provisions of this subsection shall not preclude (1) in any civil action, the use of any writing which was recorded independently of such proceedings; (2) in any civil action, the testimony of any person concerning the facts which formed the basis for the institution of such proceedings of which he had personal knowledge acquired independently of such proceedings; (3) in any health care provider proceedings concerning the termination or restriction of staff privileges, other than peer review, the use of data discussed or developed during peer review proceedings; or (4) in any civil action, disclosure of the fact that staff privileges were terminated or restricted, including the specific restrictions imposed, if any.

The Peer Review Immunity Statute, CGS 38-19a, as amended in 1980, now exempts from discovery the "proceedings" of peer review committees, rather than merely "opinions" as in the previous law. In addition the amendment exempts from immunity such proceedings when used for the purposes of hospital credentials committees, and clarifies the status of original documents as regards immunity.

In its present form, the statute meets the legislative goals of CSMS, as well as the legislative intent of the original act. This legislative intent was researched by CSMS staff and reported in the September, 1979 issue of *Connecticut Medicine,* prior to enactment of the new amendment.

Teenagers, Physicians, and the Law in Connecticut, 1982

VICTOR C. STRASBURGER, M.D. AND J. MICHAEL EISNER, PH.D., J.D.

THE CONNECTICUT AAP COMMITTEE ON ADOLESCENCE

ABSTRACT—The legal rights of adolescents are often unclear to teenagers and physicians alike. A survey of 79 Connecticut pediatricians showed that 59% were concerned about legal issues but that only one physician could correctly answer all seventeen legal questions contained in a survey. Connecticut statutes mandate the legal age of majority as 18. However, a teenager under 18 does not need parental consent to be treated as an emergency, for a venereal disease, or for drug abuse. A "mature minor"—one who is able to understand the risks and benefits of a medical treatment and give an informed consent—does not necessarily need parental permission to receive medical treatment, including birth control counseling or a first-trimester abortion. Sixty-one percent of physicians responding said that they would be in favor of a new Connecticut state law mandating 15 years of age as the age of consent for routine medical treatment.

Of all the medical populations that doctors serve, teenagers are the most difficult to handle. They can be as non-verbal as neonates, as feisty as children, as non-compliant as adults, and as destitute as the elderly. Complicating the myriad of psychological issues—both in the teenagers and in the physician, whose own adolescence is often anamnestically challenged when dealing with teenagers—are the legal issues involved in seeing and treating teenagers who are minors. Frequently, the private practitioner is confronted with varying interpretations of laws, a lack of laws dealing with crucial questions, and a bewildering influx of inconsistent information from lower court decisions, the media, "locker room" lawyers (who often are colleagues or nonpracticing legal academicians), and from local public interest and political groups. On top of this first layer of conflicting information is sprinkled a "frosting" of definitive Supreme Court decisions that even legal experts have a difficult time interpreting. In light of all this, what can private practitioners do? The more serious problem is that teenagers have become the most medically under-served part of our population. Many health professionals do not enjoy caring for adolescents, and even those who do may practice in continual fear of legal repercussions.

In an effort to gauge the concerns and legal sophistication of the pediatric community practicing in the state of Connecticut, the Committee on Adolescence of the Connecticut Chapter of the American Academy of Pediatrics circulated a questionnaire to all of its members in February, 1981.

Methods

A total of 400 questionnaires were mailed, and 79 were completely answered for a return rate of 20%. Over 80% of the respondents were in private practice (Table 1) and 67% of them usually dealt with a patient population that was less than 25% teenagers (Table 2). Nevertheless, 59% of the physicians expressed some concern or great concern over the legal aspects of

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treating teenagers (Table 3). Indeed, the majority of physicians responding (61%) reported that they "would be in favor of a new Connecticut law being passed specifying 15 years of age or older as the age at which a teenager can consent for his or her own medical care."

The legal survey was contained in a larger survey concerning physicians' attitudes towards seeing teenagers. Seventeen questions were designed in a True-False format to cover basic aspects of Adolescent Medicine and the law in Connecticut (Table 4).

Results

A normal bell-shaped distribution of scores was obtained, with a range of scores from 40 to 100 (Table 5). The average score of the respondents was 73.8, with a median score of 76. On the average, four questions were answered incorrectly (range: 0-10 incorrect answers). If 70 were accepted as a passing grade, 61 of the 79 physicians would have passed. Interestingly, only one physician received a perfect score of 100.

Discussion

The overall level of legal knowledge among the 79 respondents was good. Most frequently missed were questions on treatment of drug abusers, treatment of minors over the age of 15 (other than for prescribing contraceptives), and consent for abortions. However, a surprising 22% of respondents thought that the majority of 14-15-year-old girls are sexually active, more physicians knew the correct drinking age (97%) than the correct voting age (87%), 17% of physicians would not treat a patient for gonorrhea without parental consent, and an alarming 13% would not approve of an operation on a teenager with acute appendicitis in an emergency without first obtaining parental consent!

TABLE I

Respondents, by type of practice

Private	65	(82%)
Hospital-based	4	(5%)
Academic	6	(7%)
Clinic	3	(4%)
Other	1	(1%)

TABLE II

Percentage of Teenage Patients

0- 25%	53
25- 50%	25
50- 75%	1
75-100%	0

TABLE III

Concern about Legal Issues

Very concerned	8	(10%)
Somewhat concerned	38	(49%)
Not concerned	32	(41%)

General Statutes

There are, in fact, few Connecticut laws regarding the medical treatment of teenagers. The age of majority is 18 years of age. The legal drinking age and the voting age are 18. Connecticut has a statute permitting treatment of minors without parental consent for venereal disease. (However, if the minor is twelve or under, the matter must be reported as possible child abuse.) "The fact of consultation, examination and treatment . . . shall be confidential and shall not be divulged . . . including the sending of a bill for such services to any person other than the minor (except for

TABLE IV

Legal Survey

1. In Connecticut, it is against the law to treat anyone under 18 years of age without parental permission. (False)
2. The legal age of majority in Connecticut is 18. (True)
3. A 15-year-old pregnant teenager in Connecticut cannot obtain an abortion without her parents' consent. (False)
4. The drinking age in Connecticut is 18. (True)
5. The voting age in Connecticut is 21. (False)
6. The majority of 14-15 year-old girls in the United States are virginal. (True)
7. There is no law in Connecticut specifying what care can be given to a teenage girl who thinks she is pregnant. (True)
8. Several physicians have been successfully sued for properly prescribing birth control to minors without parental consent. (False)
9. No physician has been successfully sued for properly treating a minor 15 years of age or older without first obtaining parental consent. (True)
10. A 13 year-old girl with her 8 month-old baby needs her mother's permission before the baby can be treated. (False)
11. A 13 year-old girl with acute appendicitis whose parents cannot be located cannot be operated on without their permission. (False)
12. A 13 year-old girl who fears she may have gonorrhea can be examined and treated without her parents' consent. (True)
13. A pregnant 15 year-old has the right to continue her education in the public school system. (True)
14. Health education is mandatory in the Connecticut public school system.(True)
15. A minor who has entered into a valid marriage, or is on active duty with the Armed Forces of the United States, or willingly lives apart from his or her parent or guardian and is managing his or her own financial affairs, may be deemed emancipated either by a court of law or under common law standards. (True)
16. For medical purposes, an emancipated minor can consent for his/her own medical care. (True)
17. In Connecticut, a teenager who seeks medical help for a drug or alcohol* problem can be seen by a physician at any age without parental consent. (False)

*As indicated above, the Connecticut statutes cover only treatment for drug abuse. It may, of course, be possible to treat for alcohol abuse under the doctrine of the "mature minor", discussed above.

TABLE V

Test Results

Number of errors	Respondents
0	1 (1%)
1- 2	15 (19%)
3- 5	37 (47%)
6- 8	22 (28%)
9-10	4 (5%)

reports of communicable diseases)." (Connecticut General Statutes, Section 19-89a.) (The minor is liable for the cost of the services rendered, C.G.S. § 19-496f.) There is also a statute which provides for treatment of a minor's drug abuse without parental consent. It prohibits the notification of parents without the consent of the *minor*. Unfortunately, this statute does not address treatment for an alcohol problem. Finally, there is now a statutory definition of emancipation in Connecticut which provides that if a minor of at least sixteen has entered into a valid marriage, or is on active duty with the Armed Forces, or is willingly living apart from his parents and is managing his own financial affairs, or has shown some other good cause, a court order of emancipation can be obtained. C.G.S. § 46b-150 *et. seq.* Additionally, a minor can still demonstrate that he or she is emancipated under traditional common law standards without going through this procedure. For parents, the reverse process occasionally may be useful: they, too, can petition the courts to declare their teenager emancipated.

Other states have enacted legislation which delineates teenagers' rights in greater detail, addressing such issues as consent if under-age, treatment for suspected pregnancy, birth control, and abortion. At present, Alabama has the most teen-oriented law in the U.S. concerning teenagers and their health care: teenagers can consent for their own medical care beginning at age 14 and can receive birth control couseling and/or treatment for suspected pregnancy at any age. (In Connecticut, a minor who has been married or who has borne a child can consent to treatment for his or her child and is responsible for the bill. C.G.S. § 19-142a.) At the opposite end of the spectrum, Utah has a law mandating parental notification of a minor's abortion (discussed below).

Consent

Except with respect to non-therapeutic sterilization or the donation of tissue for purposes of transplantation, we are unaware of any reported decision in which a parent has recovered damages based on the failure to obtain the parent's informed consent—even in the absence of a minor consent statute—for treatment of a mature child over the age of 15 who has given an informed consent.[1] This is because of a judicial concept that has evolved during the last several decades, the so-called "mature minor." There has been considerable discussion of this doctrine among legal scholars. Their consensus is that parental consent is unnecessary if (1) the minor is near the age of majority, i.e., is at least 15 years of age or older; (2) the minor is able to understand the nature of the treatment and can give a genuinely informed consent under usual standards of informed consent; (3) the treatment is necessary according to conservative medical opinion, is being undertaken for the patient's own benefit and not that of a third party (e.g., transplant donor), and is less than "major" or "serious" in nature; and (4) there is some very good reason why parental consent can not be obtained.[2] Of course, all of this needs to be well documented in the medical chart.

Thus, the physician may treat a "mature minor," who meets the criteria set forth above, without first obtaining parental consent. Treatment also may be provided to a mature minor in situations which although not "emergencies" involve a certain amount of pain and suffering if the treatment is delayed, e.g., a runaway who has an acute appendicitis or a fractured leg.[3] (Note that the existence of a life—or limb — threatening medical emergency obviates the need to obtain consent. Parents may not recover damages for proper emergency treatment without their consent.)

Confidentiality

The primary concern of the average teenager seeking medical help, even for a trivial illness, is confidentiality.[4] It is one of the factors that explains why teens most often go to family planning clinics rather than their own family physicians for birth control and treatment of VD. We know of no reported decision in which a minor successfully sued a physician for revealing information to his parents (although note the statutory prohibitions on parental notification without the minor's permission for VD and drug abuse discussed above). It seems reasonable, however, that if a physician is willing to treat a minor without parental consent, then the normal physician-patient relationship generally should apply.[5] The notable exceptions to maintaining confidentiality would apply to adults as well as minors —if the patient has a reportable contagious disease, if the patient's life or health is in imminent danger (e.g., suicide), or if the possible actions of the patient may imminently endanger another person (e.g., homicide). If confidentiality may be breached for other reasons, the minor should be warned of this fact prior to treatment. Finally, 16 and 17 year old minors who have signed themselves into hospitals as voluntary mental patients have all of the rights of adult mental patients including the right to consent or refuse to consent to treatment. *See* Melville v. *Sabbatino,* 30 Conn. Sup. 320, 313 A.2d 886 (Super. Ct. New Haven Cty. 1973); C.G.S. § 17-206a (d).

Birth Control

It was only sixteen years ago, in 1965, that the U.S. Supreme Court held that a state statute forbidding the prescription of contraceptives to a married adult violated marital privacy. The state involved was Connecticut. In *Griswold v. Connecticut,* 381 U.S. 479, the Court ruled that a constitutional "right of privacy" existed that could be implied from other specific guarantees in the Bill of Rights. In *Carey v. Population Services International,* 431 U.S. 678, the Supreme Court held that "the right of privacy in connection with decisions affecting procreation extends to minors as well as adults." 431 U.S. 693. More recently, a federal appellate court in Michigan held in the case of *Doe v. Irwin* that a state-supported county clinic which counseled teenagers and prescribed birth control, other than IUDs, without parental consent or notification was under no duty to notify parents if the teenager did not wish to do so. (It was the policy of the clinic to encourage but not require parental involvement.) The parents had argued that their constitutional liberty interest in the care, custody and control of their minor children, long recognized by the Supreme Court, had been infringed upon by the failure to notify them. The Court rejected the argument:

> The State of Michigan, acting through the Center and defendants, has imposed no compulsory requirements or prohibitions which affect rights of the plaintiffs. It has merely established a voluntary birth control clinic. There is no requirement that the children of the plaintiffs avail themselves of the services offered by the Center and no prohibition against the plaintiffs' participating in decisions of their minor children on issues of sexual activity and birth control. The plaintiffs remain free to exercise their traditional care, custody and control over their unemancipated children . . .
>
> The question in this case is not whether a state may impose a condition which would limit the right of privacy of the minors whose interests are involved. Rather, it is whether the Constitution requires such a condition. In the absence of a constitutional requirement for notice to parents, it is clearly a matter for the state to determine whether such a requirement is necessary or desirable . . . *Doe v. Irwin,* 615 F.2d 1162, 1168, 1169 (6th Cir. 1980), *cert. denied,* 101 S.Ct. 95.

The Supreme Court refused to review the decision.

We are of the view, as is one distinguished legal authority in the area of adolescent medicine,[6] that a physician counseling or providing contraceptives to a mature minor without parental consent or notification faces little risk of liability. The *Doe v. Irwin* case lends considerable support to this view.

We are not suggesting, however, that the physician is under any legal obligation to prescribe birth control pills or devices for a minor. Indeed, a physician may refuse to treat such a patient because of the physician's own moral, religious, medical, or other objections. If the physician refuses to treat, the most prudent course of action would be to advise the teenager where to obtain such help and make the appropriate referral.

Abortion

No single medical issue has aroused the American public more in our lifetimes than abortion, and there is every indication that this will continue to be an unsettled and unsettling issue throughout the 1980's. Though they comprise about 17% of the population of childbearing women, teenagers have accounted for 33% of all abortions since 1972.[7] And although abortion is a relatively safe procedure in teenagers, the risks—both physical and psychological—are known to increase dramatically with gestational age and type of procedure.[8]

Teenagers consistently wait until later in their pregnancy to have their abortions[9] and are twice as likely as older women to obtain abortions after 12 weeks.[10] While U.S. Supreme Court decisions in the early 1970's had the effect of opening up the health care system for teenagers seeking abortion, so-called "right-to-life" groups have sought to limit and reverse this trend.

Since the Supreme Court's landmark decisions in 1973 (*Roe v. Wade* and *Doe v. Bolton)* that women have a constitutional right—with concurrence of their physicians—to obtain abortions, a number of decisions have sought to delineate how minors fit into the picture.

In *Planned Parenthood of Central Missouri v. Danforth* in 1976, the Court was asked to rule on the constitutionality of a Missouri statute which, except in life-threatening situations, required written parental (or *in loco parentis)* consent before an unmarried woman under age 18 could obtain a first-trimester abortion. The Court ruled that this law was unconstitutional because a "State may not impose a blanket provision . . . requiring the consent of a parent or person *in loco parentis* as a condition for abortion of an unmarried minor during the first 12 weeks of her pregnancy." The Court also pointed out that it was not suggesting "that every minor, regardless of age or maturity, may give effective consent for termination of her pregnancy."

In *Bellotti v. Baird,* also decided in 1976, the Court considered the constitutionality of a Massachusetts statute which insisted on written consent of both parents but which provided for an alternative procedure —a Superior Court order permitting the abortion without parental consent. The Supreme Court sent the case back to Massachusetts Supreme Judicial Court for interpretation, indicating that the statute might be held constitutional if it were construed in a way to avoid "a 'parental veto' . . . or impose undue burdens upon a mature minor capable of giving informed consent."

The Bellotti case reached the Supreme Court again in 1979 after interpretation by the Massachusetts Supreme Judicial Court. The Supreme Court then held the statute unconstitutional for two major reasons: (1) it permitted a court to prevent a mature minor from obtaining an abortion, and (2) it required a minor to obtain parental consultation without affording her an opportunity for an independent judicial determination. The Court suggested that,

> . . . under state regulation such as that undertaken by Massachusetts, every minor must have the opportunity—if she so desires—to go directly to a court without first consulting or notifying her parents. If she satisfies that court that she is mature and well-enough informed to make intelligently the abortion decision on her own, the court must authorize her to act without parental consultation or consent. If she fails to satisfy the court that she is competent to make this decision independently, she must be permitted to show that an abortion nonetheless would be in her best interests. If the court is persuaded that it is, the court must authorize the abortion. If, however, the court is not persuaded by the minor that she is mature or that the abortion would be in her best interest, it may decline to sanction the operation.

One other recent Supreme Court decision is worth mentioning, *H.L. v. Matheson,* 101 S.Ct. 1164(1981). In *Matheson* the Court upheld a Utah law requiring notification "if possible" of the parents of a dependent (unemancipated), unmarried minor prior to performing an abortion. The only issue before the Court was the question of the "constitutionality of a statute requiring a physician to give notice to parents 'if possible' prior to performing an abortion on their minor daughter, (a) when the girl is living with and dependent upon her parents, (b) when she is not emancipated by marriage or otherwise, and (c) when she has made no claim or showing as to her maturity or as to her relations with her parents." The law in question gave "neither parents nor judge a veto power over the minor's abortion decision."

There is, however, no Connecticut statute similar to the Utah or Massachusetts laws. Accordingly, it is our conclusion that in Connecticut an abortion may be performed upon the signature of a minor unless in the opinion of the physician she is not mature. Surely, in the case of unemancipated minors, it is advisable to attempt to obtain parental consent if the minor does not object. The physician's determination that the minor is mature should be noted in the patient's record. If there is a question with respect to the minor's maturity, and parental consent has not been obtained, written application for approval should be made by the attending physician (if the abortion is to be performed in a hospital) to the Chief of Obstetrics and Gynecology. This application should include the written consent of the minor, if any, the medical history, physical examination, laboratory data, and any other pertinent data which will aid the Chief in his decision. At the discretion of the Chief, the case should be reviewed with an administrative officer of the Hospital. When the procedure is authorized by the Chief, his written approval and the patient's written consent should be incorporated into the medical record.

Physicians also should be familiar with the State Department of Health Services abortion regulations, Section 19-13-D54 of the Connecticut Public Health Code. After the first trimester, an induced abortion may be performed only in a hospital. During the third trimester, an abortion may be performed only when necessary to preserve the life or health of the expectant mother. *Under no circumstances should an abortion be performed when the patient refuses to give her consent* irrespective of the wishes of her parents or of any other persons.

It also should be noted that a minor may not be sterilized (except where necessarily incidental to medically-indicated urgent treatment such as for cancer or severe trauma), see C.G.S. §45-78q, or be used as a living donor of tissue or organs without a court order.

Conclusion

The legal rights of adolescents in relation to the health care system have become somewhat clarified in the past decade but remain in a state of flux. Teenagers may obtain contraceptives if they are mature enough to understand their potential risks and benefits. Similarly, under appropriate circumstances, they are capable of consenting to their own medical treatment, including first-trimester abortions, if they are deemed to be mature. Who is or is not mature is a decision to be made by the physician, but 15 years of age or older has traditionally been a reliable age minimum. Parental involvement is preferable, but not always obtainable. If parental consent cannot be obtained, a mature minor may be treated confidentially and appropriately, with the need for treatment and the reason for the inability to obtain parental consent adequately documented in the patient's chart or hospital record.

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AMA Report: Reference Committee D Hospitals

WILLIAM A. WHALEN, M.D.

Reference Committee D considered four reports from the Board of Trustees and eleven resolutions submitted by the Delegations. Taking them in order:

1 REPORT F OF BOARD OF TRUSTEES CATEGORIZATION OF HOSPITAL EMERGENCY CAPABILITIES (BOARD OF TRUSTEES REPORT D, A-80)

Report F of the Board of Trustees informed the House of Delegates of changes made by the Commission on Emergency Medical Services in the report on the categorization of hospital emergency capabilities which were submitted to the House at the 1980 Annual Meeting.

The problem of categorization of hospital emergency room capabilities has been discussed, deliberated, and debated by the Board and by the House of Delegates since 1971. At that time, an AMA Commission was formed to study the problem. In 1973, the AHA recommended a similar approach as the AMA. Originally, the guidelines did not address the needs and problems of the rural and some of the urban areas. In 1975, the vertical categorization was a focal point of controversy.

Report D (A-80) was distributed as a draft document for review and comment by 1,000 organizations. Only 37 letters of comment were received in return. In answer to all of the criticism leveled at the report, a number of changes took place for approval by the House. These are as follows:

A Change in the title of the report, namely, Provisional Guidelines for Optimal Categorization of Emergency Room Capabilities.

B Provisional Guidelines were to be used as an optional resource.

C Provisional Guidelines were not to be interpreted by legislative or regulatory bodies as mandatory standards.

D Provisional Guidelines represented the present thinking and recent experiences of practicing physicians.

E There was to be an ongoing review with revisions of Guidelines as necessary in the future.

F It was expected that the majority of patients would be admitted to Level II or Level III units and that a small number would be admitted to Level I.

G It was expected as the Emergency Room specialists matured and increased in number that the presence of these trained individuals might fulfill the requirement of a 24 hour availability of a staff specialist.

H In the acute medical section of the report, there was a provision for a 24 hour screening service to direct the none-urgent or none-emergent patients to their own physicians.

ACTION: Report F of Board of Trustees filed.

2 REPORT M OF BOARD OF TRUSTEES JCAH STANDARDS FOR CATEGORIZATION OF HOSPITAL EMERGENCY SERVICES.

Report M of the Board of Trustees described changes made by the Joint Commission on Accreditation of Hospitals and its standards regarding categorization of emergency capabilities.

When the original report for vertical categorization was submitted, the AMA House of Delegates called for broader review of the appropriateness of categorization particularly with regard to the requirement of Level I and a 24-hour physician coverage. The present recommendation is that Level I Emergency Department Service would offer comprehensive care 24 hours a day with at least one physician experienced in emergency care on duty in the area. It requires an in-house coverage for at least medical, surgical, orthopedic, ob-gyn., pediatric, and anesthesia services by members of the medical staff or senior residents. When such coverage could be demonstrated to be met suitably through another mechanism, an equivalency should be considered to exist for purposes of compliance with the requirement. Other specialty consultations should be available within 30 minutes. Extensive discussion obviously evolved over the question of who decided the

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Report of Connecticut State Medical Society Alternate Delegate William A. Whalen, M.D., on the Proceedings of the Reference Committee D, Annual Meeting AMA, A-81, House of Delegates, Chicago, Illinois, June 6 -11, 1981.

so-called *equivalency.* In addition, the consensus felt that the time limit of 30 minutes was too rigid.

ACTION: Report M of Board of Trustees filed.

3 REPORT DD OF BOARD OF TRUSTEES JOINT COMMISSION ON ACCREDITATION OF HOSPITALS (Resolutions 4, 43, 46, 64, 81, 112, Board of Trustees Report MM, A-80; Resolutions 1, 5, 39, 58, 86, Board of Trustees Report Z, I-80.)

The Board of Trustees has been continuing the study of problems with the interpretive language of the standards, the organizations, the accreditation procedures, the survey process, and the philosophy of the JCAH. The accreditation standards will have been written by April 1982. All the revisions suggested by the Board of Trustees, the AMA, reflected criticism previously offered in multiple resolutions.

REPORT DD OF BOARD OF TRUSTEES ADOPTED IN LIEU OF RESOLUTIONS 4, 43, 46, 64, and 112 (A-80) and Resolutions 1, 5, 39 and 58 (I-80).

4 RESOLUTION 46—JOINT COMMISSION ON ACCREDITATION OF HOSPITALS.

Resolution 46 asks that the AMA express its concern to the Joint Commission of Accreditation of Hospitals about the value of the quality assurance standards and suggests that the progam be reevaluated with input from medical staffs practicing in representative hospitals.

In the Reference Committee, testimony challenged the cost effectiveness of this program. It was suggested that practicing physicians be involved in establishing these standards. We were assured by Dr. Affelt that in the revision of the hospital accreditation standards, practicing physicians, indeed, would have a part in the survey process.

ACTION: Resolution 46 referred to Board of Trustees for its inclusion in its continuing study of the JCAH.

5 RESOLUTION 109—JCAH STANDARDS FOR QUALITY ASSURANCE.

Resolution 109 called on the AMA to request that the JCAH justify any standards for documentation of quality assurance by convincing evidence that such standards effectively raise the quality of care and effectively reduce the likelihood of personal injuries.

In debate, it was felt that the Resolution 109 was duplicative. It was questioned as to whether or not documentation of quality assurance would improve the care of patients. Most of the testimony indicated that one would not expect a change in the quality of care with regulation, and that the cost effectiveness of this program certainly had to be challenged.

ACTION: Resolution 109 referred to Board of Trustees for inclusion in its continuing study of the JCAH.

6 REPORT X OF BOARD OF TRUSTEES—APPLICATION OF PODIATRISTS FOR HOSPITAL PRIVILEGES (Resolution 73, I-79)

Report X of Board of Trustees informed the House of Delegates that after study and deliberation, the Board determined that it is neither practicable nor legally appropriate for the AMA to attempt to develop standards to be used as criteria for granting hospital privileges to podiatrists.

In 1979, the Board of Trustees was asked to describe podiatric training, education, licensure to furnish an information base for State medical associations to assist local hospitals in making informed decisions for granting and delineating privileges of podiatrists. Once again, the only stand that the AMA could take is based on the previous recognized policy which states that all qualified limited practitioners have the right to seek opportunities to utilize their skill and knowledge in hospitals and other health facilities under the same credential evaluation procedures used for all applicants for all hospital privileges. It was felt that it was neither practicable or legally appropriate for the AMA to attempt to develop standards.

ACTION: Report X of the Board of Trustees adopted in lieu of Resolution 73 (I-79), and the Board of Trustees requested to prepare a report outlining present legal status and evaluative information regarding podiatry and that it be disseminated as needed.

7 RESOLUTION 11—JURISDICTIONAL DISPUTES

Resolution 11 called on the AMA to reaffirm its policy that hospital privileges should be granted on the basis of individual qualifications, training, experience, integrity, and demonstrated performance. Once again, the Reference Committee debated the necessity of having Board credentials before applying for hospital privileges. The Reference Committee reaffirmed the AMA policy stating that individual character, training, competence, experience and judgment be the criteria for granting privileges.

8 RESOLUTION 38—HOSPITAL ADMISSION HISTORY AND PHYSICALS.

Resolution 38 asked that the AMA recommend to all hospital medical staffs that admission histories and physicals be done only by physicians.

The testimony of the Reference Committee identified the possibility for reduction in care of the patient if histories and physicals were not done by physicians. The situations would arise where individuals such as PAs were helping physicians in their daily work. Furthermore, the problem of qualified oral surgeons being given the permission to perform admission histories and physicals was discussed thoroughly. Dr. Littel from California stated that he had been teaching oral surgeons for three years, and he felt that oral surgeons were capable of performing their own histories and physicals. Dr. Lewis from the Medical College of Virginia stated that they had done a study on 25 oral surgeons. The study was divided into three parts. They reviewed histories and physical examinations of the 25 individuals and found that they were quite complete, perhaps lacking in ability to describe certain heart sounds and omitting description of tendon reflexes, etc. The second part involved the examination of difficult medical problems of these 25 oral surgeons. It was felt, in the final analysis, that their evaluations were approximately 90% correct. The third and final part involved a retrospective review of 90 cases originally examined by dental surgeons in comparison with 200 cases seen by ENT and plastic surgeons. It was felt that the oral surgeons made a diagnosis equally as well or perhaps more often than the ENT or plastic surgeons.

It appears at the present time that the JCAH may very well revise its standards on admission histories and physicals. Certainly, a differentiation has to be made between dentists and the oral surgeons.

When the House of Delegates debated and acted on Resolution 38, an amendment was offered as follows:

RESOLVED: The American Medical Association recommends to all hospital medical staffs that admission histories and physicals be performed only by physicians.

ACTION: Resolution 38 **adopted as amended.**

9 RESOLUTION 42—CLINICAL PRIVILEGES FOR PHYSICIANS WITH NEWLY ACQUIRED SKILLS.

Resolution 42 asked that the AMA increase support for physicians attempting to gain hospital clinical privileges consistent with newly acquired education, knowledge and skills in the hospital setting, and urge hospital Boards of Trustees to eliminate policies and procedures that discriminate against or exclude newly qualified physicians from practicing their newly acquired skills.

This Resolution was very much related to that of Resolution 11. Here, the concern was that with the changing technology and modes of therapy in different departments, problems would arise in attempting to evaluate the creditability and authenticity of the applicant's credentials. It was finally felt that granting privileges would depend upon the individual home-based Credential Committee.

The House of Delegates considered the following amendment to Resolution 42, inserting as the second resolve:

RESOLVED: That the criteria to be used in granting these privileges be based on the AMA policy (Substitute Resolution 88, A-79) which states that the individual character, training, competence, experience and judgment be the criteria for granting privileges in hospitals, and that physicians representing several specialties can and should be permitted to perform the same procedures if they meet these criterias;

ACTION: Resolution 42 and suggested **Amendment** be **referred** to the Board of Trustees for further study and report to the House of Delegates 1981 interim meeting.

10 RESOLUTION 34—HOSPITAL TRUSTEE EDUCATION

Resolution 34 called on the AMA to develop an educational program for hospital trustees regarding positions and interest vital to organized medicine, including responsibilities in areas of concern that properly belong to the medical staff.

It was learned in the Reference Committee that the AHA advocates instruction of its Board of Trustees. Tom Nesbitt, who is now the President of the Board of Trustees of the AHA, says that they have established a committee for study of this problem. All agreed that this was a worthwhile endeavor.

ACTION; Resolution 34 **adopted.**

11 RESOLUTION 64—HOSPITAL TAX-FREE FOUNDATIONS.

Resolution 64 asked that the AMA study and report on available options for medical staffs to oppose the establishment of hospital tax-free foundations and super corporations which create unfair competition and interference with the private practice of medicine, and that the AMA negotiate with the American Hospital Association to mitigate their influence and sponsorship of these types of legal entities.

On the floor of the Reference Committee, the discussion was active and very instructional. Apparently throughout the country, a great deal of concern is being registered over the apparent trends in hospital corporate strategies in response to the changing economic and regulatory forces. Some feel as though the hospitals will be taking over the practice of medicine. Apparently, money funds are being siphoned from the hospital, and super Boards are being set up in tax-free foundations to build buildings or place satellite units in shopping centers, and then subsidizing physicians to man these areas. A growing problem is Emergency Room Clinics which are being used as marketing tools to advertise the hospital which is sponsoring it. Dr. Thomas Nesbitt stated that the Board of Trustees of the AHA is certainly not sponsoring this effort. He found it difficult to defend the position in the market place. Most of the testimony considered this as a threat to take-over medical practice. It was felt as though it was a throwback to thirty years ago.

ACTION: Resolution 64 referred to Board of Trustees for report to the House of Delegates at the 1981 interim meeting.

12 RESOLUTION 61—SATELLITE EMERGENCY CLINICS

Resolution 61 called on the AMA to study and report on the operation of Satellite Emergency Clinics subsidized by hospitals.

It was reported that satellite emergency clinics have been popping up all over the country. Apparently one out of every five people going to the Emergency Room are ultimately admitted to a hospital today. Obviously, this is an important matter. In this era of competition between hospitals, it was of great concern that this would lead to problems of "battles of turf."

ACTION: Resolution 61 referred to Board of Trustees for report to the House of Delegates at the 1981 interim meeting.

13 RESOLUTION 14—REDUCTION IN PAPERWORK IN HOSPITALS.

Resolution 14 asked that the AMA join with the other organizations to devise techniques for streamlining hospital paperwork to lessen the physicians burden and to enhance the usefulness and accessibility of information. Very little discussion was carried out on this Resolution.

ACTION: Resolution 14 not adopted.

14 RESOLUTION 113—THE RIGHT OF A HOSPITALIZED PATIENT TO CHOOSE HIS ATTENDING OR CONSULTING PHYSICIAN.

Resolution 113 called on the AMA to seek to alter public procedures to insure the right of a hospital patient to have the physician of his choice.

Discussion at the Reference Committee was quite active. Resolution 113 appeared to be allied to Resolution 64 and 61 and concerned the right of hospitalized patients to choose their attending or consulting physician. Apparently with the increase in number of exclusive contracts being awarded by hospitals, and with the enormous pressure being exerted by hospitals to impose these exclusive contracts, it is the growing opinion of many individuals that patients are not being given the opportunity to choose their attending or consulting physician. Examples in Pennsylvania and Texas were rendered where the hospitals were dictating to the patients as to whom the patient would see in consultation. In one instance, one hospital purchased a second hospital and dismissed the three radiologists who were working in the purchased hospital. These radiologists were replaced with radiologists from the hospital community based at the purchasing hospital. When this was discussed at legal levels, the purchased hospital along with the radiologists were told by the legal profession that this was not a professional decision but a *business decision.* One wonders how the Federal Trade Commission would react to this set of affairs.

The House of Delegates was referred to Section 9.05 of the Current Opinions of the Judicial Council which reads as follows: "Free choice of physician is the right of every individual. The individual may select and change at will the physicians who serve him or he may choose medical plans such as that provided by closed panels or group practice, or he may choose to obtain medical care by becoming a subscriber to the health maintenance or service organization. The freedom of the individual to select his preferred system of medical care and free competition among physicians and alternative systems of medical care are prerequisites of the ethical practice and optimal medical care."

The House of Delegates considered the following substitute Resolution 113.

RESOLVED, that the Board of Trustees investigate and evaluate the advisability,desirability, ethical and legal implications of exclusive contracts between physicians and hospitals, and also determine the impact of the exclusive contracts on the quality and cost of medical care in the hospital setting and report its findings, conclusions and recommendations at the 1981 AMA interim meeting.

ACTION: Resolution 113 and suggested substitute referred to Board of Trustees for report at the 1981 interim meeting.

15 RESOLUTION 146—SMOKING IN HOSPITALS

Resolution 146 requested the AMA to establish strict guidelines for hospital policy on restricting smoking on hospital premises, and to seek to have guidelines incorporated into the hospital accreditation standards of the JCAH.

All discussion on the floor of the Reference Committee favored the idea that the AMA establish guidelines for hospitals to use relative to smoking on hospital premises and could not enforce strict guidelines in any hospital. Debate on the floor felt that the AMA could not enforce strict guidelines in any hospital but that any guidelines submitted would be that of a recommendation.

The House of Delegates considered the following substitute Resolution 146.

RESOLVED, that the American Medical Association establish suggested guidelines for hospitals to use relative to smoking on hospital premises.

ACTION: Substitute Resolution 146 adopted.

The report of Reference Committee D of the annual meeting of the American Medical Association, June 6-11, 1981 accompanied by the action of the House of Delegates is submitted to the Chairman of the AMA Delegates from the State of Connecticut. The information included in this report is particularly relevant to the activities of the Windham Community Memorial Hospital. The individual report will be circulated to the Administrator, Mr. John Peck, the Chief of Staff, Dr. Stanton Hale, and our Staff Coordinator, Dr. Gerald O'Brien.

The Joint Commission on Accreditation of Hospitals: Relations with the Practicing Physician— Past, Present and Future

JCAH and the Practicing Physician: Present Issues, Current Solutions and Future Considerations

(Second of two parts)

JOHN H. WESTERMAN

Introduction

Part I of this article attempted to trace the role of the practitioner in the development of JCAH. It was suggested that most of the current issues had their origins in five basic considerations: the objectives of JCAH standards, the principles guiding standards development, the consultative process in standards development, making the survey process more meaningful to the practitioner, and reconciling voluntary accreditation with the constantly changing skills and expectations among health providers.

This second part of the article focuses on issues in cost containment and quality assurance in relation to the management of change. Criteria for the resolution of these issues are presented, along with some probable outcomes of criteria application. As these questions will be current for some while, they are timely illustrations of the ability of JCAH to define issues and to implement solutions.

The article concludes by defining an emerging set of issues, and suggesting a framework for JCAH-practitioner relationships in facing them.

Cost Containment and the Management of Change

The primary business of JCAH has been in the area of standards development and new standards often reflect improvements which require more personnel and equipment. Thus it has been assumed that JCAH goes about its business without regard to considerations of cost or cost containment. However, it would not be accurate to say JCAH is unmindful of cost implications as the Survey and Standards Committee utilizes an extensive consultative process for revising existing standards and developing new standards.

In addition to its internal standards review process, however, JCAH must be aware of the pressures and implications of externally developed standards—from the federal government, for instance. At times, codes or legislation are proposed which contain higher standards than those of JCAH; life-safety and clinical laboratory measures are examples of this. In addition, federal recognition of JCAH accreditation for "deemed status," i.e. JCAH accreditation automatically indicates eligibility for Medicare reimbursement—carries with it the obligation to keep up with current practices.

Finally, there is constant pressure by specialty societies to have their areas covered by the JCAH, but this means adapting all changes to the various additional manuals, and the AHA commissioners on the Survey and Standards Committee are aware of these consequences. Indeed, there is not a segment of the providers which hasn't voiced concern about the difficulty in applying one set of standards to a variety of settings. For example, rural hospitals, inner city hospitals, small hospitals, teaching hospitals, and multi-unit hospitals have all expressed concern about their category not being taken into full consideration when certain changes are made.

Recently there has been the additional problem of trying to determine how to pay for necessary changes in a reimbursement regulated environment. It is argued that the health industry cannot expand without cost containment, but how will costs be lowered so that

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expansion can take place? One suggested solution is increased prevention, home health care and social support services. Another solution drawing support is competition. One of the stumbling blocks with competition, however, is to avoid the problem of adverse selection; not only must consumers share in the costs, but physicians and hospitals must also be put at risk. A third solution is legislative reform to remove the restrictions on HMOs which prevent them from operating competitively.

Recognizing these concerns, JCAH has elevated its informal "cost implications" process to a formal board policy statement calling for a statement of cost implications for all changes in standards. It is far easier to promulgate such a policy, however, than to develop the mechanisms to implement it. It is anticipated that the initial crude attempts at implementation will be refined over time. The use of pilot projects, for example, has provided a valuable data base for making cost determinations.

Cost containment will continue to be an overriding concern. The issue is, how can the JCAH continue to upgrade and adopt new optimal achievable standards in a manner consistent with the guidelines of cost containment? The answer to that question will go a long way toward defining the role of a voluntary accrediting agency in a regulated reimbursement environment. In the absence of a reasonably firm fix on cost containment guidelines, JCAH must continue its efforts, but in a judicious manner. Elements of such an approach include:

1. reasonably accurate knowledge of the cost and impact of change on a given institution;
2. utilization of pilot panels of the different types of institutions in order to increase the likelihood of individual findings being reflective of a set or class of institutions;
3. utilization of modeling techniques to project the cost of change to a set or class, and ultimately to estimate an aggregate cost;
4. preventing standards from falling victim to single-issue advocates in terms of excessive departmental detail, preoccupation with staffing ratios and advocacy of a particular type of untested technology;
5. the willingness of JCAH to say "no" to the federal government if the rationale for change is not sufficiently strong and cannot meet established corporate criteria.

These elements represent only the start of a cost-conscious effort, and, to date, the JCAH has acted responsibly on this issue. Standards do not reflect the latest NIH discovery or the findings of the most recent *Lancet* or *New England Journal of Medicine.* Rather, the standards reflect an incorporation of what has been tried and tested and is believed to be an acceptable standard by relevant key organizations and individuals.

Quality Assurance and the Management of Change

The shift of emphasis to quality assurance has been one of the more rewarding chapters of JCAH history. Recognition of the significance of patient-care outcomes was not a new idea, but the technology for outcome assessment was not well developed. Further, the corporation had devoted a great deal of energy to the deemed status provision of the 1965 Medicare Act which specified that the conditions adopted by HEW for hospital participation in Medicare could not be higher than JCAH accreditation standards, unless a state (1) could show higher standards in its licensing code, and (2) applied for the use of *either* JCAH standards *or* federal conditions for certification in that state.

The Board of Commissioners adopted a utilization review standard in 1965. Over the next few years, the board also accepted memorandums of agreement with quasi-independent councils in long-term care, psychiatric facilities, mental retardation and developmental disabilities, and ambulatory care.

The 1972 amendments to the Social Security Act created a program to validate the deemed status provision. A sample of JCAH-accredited hospitals was reviewed by a state-HEW team, using HEW environmental guidelines which were quite different from JCAH environmental standards. The outcome of all this was predictable, but still stressful, for all parties involved. Many in state government had never been too happy with an outside voluntary agency having deemed status, and now, the application of the HEW guidelines resulted in many accredited hospitals losing their deemed status—amid a great deal of "leaked" publicity.[1]

Another portion of the 1972 Social Security Amendments created the Professional Standards Review Organization (PSRO). PSRO legislation, unlike Medicare, made no mention of JCAH. Again, the Board of Commissioners acted to have JCAH work with PSRO to avoid conflicting medical care evaluation and utilization review requirements, and to try to influence HEW to adopt regulations for PSROs which would not create an undue hardship for hospitals and medical staffs. The uncertain future of PSROs does not lessen JCAH's interest in community-based outcome measurements.

By the end of 1972, JCAH had launched its Patient Evaluation Program (PEP). The emotions concerning the PEP implementation and early PSRO-JCAH relations is a story in itself. However, by the end of the 1970s, most hospitals had adopted some variation of the outcome-oriented PEP, PSROs had delegated medical care evaluations to the hospitals with PEP-type programs, and PSROs were concentrating on aggregate patient evaluation findings.

By then, however, JCAH had already embarked on another evolutionary change.[2] Physicians and small hospitals were complaining that within four to seven years they had exhausted the most common diagnosis for statistically valid evaluations, while large hospitals claimed JCAH was obsessed with numbers and quality of medical care audits to the exclusion of other worthwhile quality assurance programs. JCAH agreed on both counts. In the new quality assurance standard, numbers are deemphasized and two basic questions are asked:[3]

1. How do the hospital and the medical staff manage the variety of quality assurance systems in place?
2. What is done with the outcomes of these various systems and analyses?

As expected, this change has not exactly been greeted with wild enthusiasm on the part of providers. The standards, by definition, lack precision, and the old business principle, "we don't care if it's good or bad law as long as we know what to do," has come into play. Also, there is growing recognition that the above two questions demand far more of the medical staff and management than the former emphasis on number of audits.

How does this problem-focused, criteria-based approach illustrate the JCAH reaction to change? A case can be made that JCAH's new quality assurance approach reflects the sensitivity and flexibility of a non-governmental, non-profit institution; no matter how sound the origin of a program, conditions do change and new standards are required to reflect the basic conceptual framework of voluntary accreditation. (Nevertheless, the essence of the 1917 American College of Surgeons' one-page accreditation standards has stood the test of time.)

The malpractice issue of the late 1970s is a dramatic example of the effect of external forces in facilitating change in the rapidity with which insurance companies put their imprint on hospital operating policies through the introduction of risk management programs. Hospitals were not asked for their reaction, nor were they given time to consider the matter; they were simply told that if they wanted malpractice and liability insurance, specific elements of a risk management program had to be in place. In a sense, this influence of the insurance companies seems to have made hospitals far more accepting of quality assurance changes.

The whole issue of maintaining quality care in a system increasingly prone to regulation and political decisions is worthy of increased attention. In a thoughtful paper tracing the history of regulation and quality assurance developments, Muller notes, "It is therefore important that physicians as individuals and through professional organizations develop a planning strategy to cope with regulation and to challenge regulations when they seem arbitrary or based on a lack of proper knowledge or information."[4] Relations with the federal government remain a critical concern to JCAH,[5] which provides an ideal vehicle for concerned organizations. JCAH is ideal because of an excellent track record of performance and because it allows health professionals to challenge regulations as peers with expertise in quality of care.

No strong case of disagreement with JCAH objectives has been put forth in the new quality assurance approach. JCAH faculty members were instrumental in bringing the complaints about the old program forward and worked on the ideas in the new program.

In summary, cost containment and quality assurance are pivotal issues that can challenge the very existence of a voluntary accreditation organization. JCAH has survived the challenge by attempting to understand the concerns with past corporate policies and has been able to implement appropriate changes with the assistance of leading health professionals and organizations.

Current Criteria for Resolution of Issues: Probable Outcomes

Major steps have been taken to develop an objective framework for dealing with the resolution of current issues. The 1981-83 JCAH corporate plan includes (1) objectives for standard-setting; (2) principles for program standards development; and (3) objectives and programs to improve the survey process. While this plan will not solve all the problems of relations with practitioners, it can go a long way toward providing the means to work out appropriate solutions to four basic JCAH-practitioner issues, namely, government relations, public relations, interactions with other health professionals, and litigation. Nevertheless, the constant change in skills, organizational relationships and technology portend the need for continuing sensitivity to these issues and to the nuances in their development:

Governmental Relations

Major shifts in federal-state responsibility for health programs are already underway. Many states are joined in the voluntary accreditation process to minimize duplication and to improve the quality of data collected. JCAH is mindful of the need to offer cooperative opportunities while remaining a voluntary program. Similarly, JCAH recognizes the equivalency of local safety codes in judging compliance with life-safety standards.

Public Relations

Because the JCAH is such a small organization ($19 million annual budget; 415 employees), it is not possible for it to devote as many resources to public relations as might be desirable. JCAH therefore relies on institutions and individual practitioners to communicate the importance of voluntary accreditation to various audiences.

Health Professionals

Relationships with health groups have been a major object of corporate attention since 1978, with JCAH depending upon the participation of health leaders in all areas. To the extent that there is disagreement among health professionals, the JCAH must become a participant in issue resolution.

Litigation

JCAH is not immune from the attentions of an increasingly litigious society. A small corporation is particularly vulnerable to protracted lawsuits which involve discovery, documentation searches and preparation by key members of the management staff. Litigation efforts "clearly highlight the struggle to maintain consistency of principle in an era of increasing litigation that threatens the quality and even survival of voluntary accreditation, as well as standards of professional care."[6]

Conclusion: Physician Participation and Planning for the Future

As noted, the 1981-83 corporate plan involves a thorough review of some fundamental portions of the program. The goal of fewer and briefer standards/ interpretation will shift a greater burden onto the judgmental skills of the survey teams. The use of individual practitioners in the actual survey process is designed to increase the involvement of the medical community leadership.

There is no guarantee that greater participation of the practicing community will improve health delivery, but full participation suggests a renewed dedication to solving the problems of voluntary accreditation.

Now, it may be worthwhile for the JCAH to devote some effort to planning for some "what if" possibilities in the 1980s. For example:

1. What if small and rural hospitals request a different set of standards, or different interpretations of existing standards?
2. What if a major unit of organization is the multihospital system? Do the existing standards apply? Is the present survey process adequate for this group?
3. HSAs all over the country are addressing plans for the reallocation of procedures and services in order to achieve greater consolidation, at least in the urban areas. What if institutions and professional groups want to develop, in conjunction with JCAH, a voluntary set of standards for certain types of procedures or services? Is there a role for JCAH, working with these experts and their organizations, to say that if you're going to hold yourself out to do "x" procedures, then you should meet "y" standards?
4. What if health organizations consolidate many different kinds of programs? Will JCAH be able to consolidate the survey process?

These and similar questions will continue to pose challenges for both the JCAH and the physicians participating in its activities.

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Plan to Attend the
CONNECTICUT STATE MEDICAL SOCIETY
190th ANNUAL MEETING
MAY 26, 27, 1982
PARKVIEW HILTON HOTEL, HARTFORD

ANNUAL MEETING OF THE HOUSE OF DELEGATES
WEDNESDAY, MAY 26, 1982
ANNUAL SCIENTIFIC ASSEMBLY OF THE SOCIETY
THURSDAY, MAY 27, 1982

Highlights of the Interim AMA Meeting

GUY W. VAN SYCKLE, M.D.

In summary form, the AMA Delegates:

- Adopted a set of principles for voluntary medical peer review, stressing appropriateness, medical necessity, and efficiency of services. Such peer review to be carried out by physicians with maximum involvement by the local medical community.
- Referred to the Board of Trustees of a series of resolutions and reports relating to emergency care and satellite centers sponsored by individual hospitals which have resulted in increased physician-hospital competition.
- Adopted a resolution calling for modification of the Medicare Economic Index to correct inequities between urban and rural areas, particularly as they affect the care of elderly patients.
- Unanimously adopted tighter standards for accrediting continuing medical education programs but withheld final approval until actual documentation of implementation was available.
- Endorsed American Medical Association participation in health care coalitions stressing cost control and local decision making.
- Rejected the concept of slotting student and resident membership on the AMA Board of Trustees.
- Called for close monitoring of all legislative issues dealing with procompetition consumer choice bills, stressing that all proposals to increase competition in the medical service market strike a sensitive balance among considerations of cost effectiveness, access, and quality.
- Resolved to inform the President and the Congress of the medical consequences of nuclear war, emphasizing that there is no adequate medical response.
- Adopted a report calling for equitable payment of hospitals by government and private payors.
- Called for continued publicizing of AMA's willingness to make negotiation expertise available for AMA members, including county and state associations.
- Endorsed model legislation to ban the manufacture, sale, and distribution of imitation controlled substances, commonly known as "look-alike" drugs.
- Approved designation by the Health and Human Services Secretary of a central maternal and child health office.
- Supported legislation to delete the three-day prior hospitalization requirement for providing extended care facility benefits under Medicare.
- Supported continued adequate federal funding of biomedical, behavioral and clinical research activities at a level that will enable the excellence of research to continue, while recognizing the compelling need for a prudent and conservative federal budget.
- Rejected a move to enact legislation restricting hospital admission privileges to physicians.
- Adopted a policy emphasizing the right of hospitalized patients to choose their own physicians.
- Allowed medical students to serve as delegates from state medical societies.
- Disseminated a joint AMA-American Bar Assn. statement on interprofessional relationships for physicians and attorneys.
- Advocated that the supply of physicians be determined by free-market forces rather than by a regulatory process, and pledged to provide physicians with information that would help them choose specialty and geographic areas that require their services.
- Urged state licensing authorities to continue to recognize the National Board of Medical Examiners' certificate for the purposes of medical licensure, and support a single Federation Licensing Examination (FLEX) instead of the proposed FLEX I—FLEX II concept.
- Recommended that a series of steps for the AMA to assure that financial aid will be available for medical students.
- Expressed concern regarding potential abuses of the tentative findings of the Graduate Medical Education National Advisory Committee (GMENAC).

GUY W. VAN SYCKLE, M.D. practices radiology in Danbury, CT. Dr. Van Syckle is a Connecticut State Medical Society Delegate to the AMA and Chairman of the CSMS Council.

This summary reports on the Interim Meeting of the AMA House of Delegates, December, 1981.

Health Planning of the Reagan Administration

EDWARD N. BRANDT, JR., M.D.

I am honored to be at this rostrum today. Over the years the privilege of addressing the House of Delegates has been extended to a great many dedicated people. Each person took the opportunity to give some perspective on the current and future of American medical practice.

As I look back, I recall some guest speakers with whom we could generally agree. With others, we had fundamental differences. But, regardless of any real or apparent differences, they all shared with us their concern for the health of the American people.

It is in that spirit that I speak with you this afternoon. I want to share our thinking on the federal investment in health . . . but I am not here as an economist. I want to review some proposed changes in the law . . . but I am not here as a general counsel. I appear before you today as a fellow physician and medical educator, a colleague who has shared with you for many years the same abiding concern for the health of our people.

Let me begin with an observation that is basic to this administration's planning. Our country is faced by many grave problems brought on by the double-digit inflation of the past two years. We have felt the brunt most keenly in medicine, also. All physicians have grimly watched the costs rise for their supplies, space, record-keeping systems, continuing education, support personnel, and technology.

The patient shares the burden of this rise in costs. Both physician and patient may look for "cost-effective" answers to illness, where no effective half-measures exist. This temptation for compromise can strike at the heart of the canons of professional practice. Medicine itself is placed at risk.

In this sense, we and *all* Americans have become hostage to the spiral of inflation. Inflation demeans us, it demeans our practice, and it demeans the very people who turn to us for help. Inflation has, in fact, become the "clear and present danger" to the health and well-being of the American people.

President Reagan has made the fight against inflation his top domestic priority. It is a fight this country must win, for a victory will mean a strengthened American economy, which is the basis for our ability to improve the health and well-being of our people. In his recent address to the joint session of the congress, the President appealed to each member to help him "lift the crushing burden of inflation off our citizens".

A major element in the President's proposed economic recovery program is the reduction in the growth of government. During the past few months every federal health program has been reviewed and a judgment made whether funding should be maintained, reduced, or phased out. In addition, for those programs whose success depends upon the response of the citizens who are directly served, we are recommending that their authorities and resources be transferred to the states and to the private sector, where the final decisions on program scope and use of resources may be more appropriately made.

This transfer will be done in the form of proposed "block grants"—consolidations of 25 health services programs from the 69 categorical grant-in-aid programs administered by the Public Health Service. The block grants are not only a part of the effort to reduce the level of federal expenditures; they are also an integral part of the President's effort to "restore a proper constitutional relationship between the federal, state, and local governments."

If Congress approves the President's legislative requests, many former federal programs will be tested during the next fiscal year. The programs will survive on their own merits and not on the inertia that often perpetuates programs begun by the federal government. Let me cite these examples:

*We plan to phase out all federal support for professional standards review organizations by 1983.

EDWARD N. BRANDT, JR., M.D., Assistant Secretary for Health, U.S. Department of Health and Human Services. Address to the AMA House of Delegates at the annual meeting held in Chicago on June 7, 1981

No federal program, no law or set of regulations, and no amount of money can assure the people of this country that the medical profession practices according to the highest possible standards. That has always been the responsibility of physicians themselves and this administration proposes to give the job back to you. We anticipate that, by the end of the two-year period of phasing out the federal program, the physicians of this country will have taken over responsibility, on a voluntary basis, for quality review.

*Similarly, we propose to phase out over the next two years all federal support for state and local health planning. This is not to be interpreted as a dismissal of planning as a useful tool for health administration. Rather, it reflects the strong belief—to which I completely subscribe—that we must "return government to those closest to the people most affected." Since the citizens of the states and municipalities are most affected, we are returning to their health authorities the discretion to organize and support planning according to their own citizens' needs. This administration is not convinced that a national health planning standard is either fair or effective. Hence, we are phasing out this federal program, also.

*My final example is also fundamental to our reorganization of the federal health enterprise. This administration is committed to a notion that I am sure remains as a beacon of faith to every person in this room: *The focus of American medical practice must return to the point where the patient actually receives care.*

Consistent with that notion is our decision to remove the federal government from some of the delivery of health care and medical service. In most cases, the federal programs have been actually carried out by public and private organizations at the state and local levels. In the case of the public health service hospitals, we believe the original need of two centuries ago has long since been fulfilled.

It is the administration's plan to end direct federal delivery of health service, except for two groups for which the federal government retains a special responsibility: our veterans and the native Americans and Alaskan natives whose well-being is an issue of conscience as well as of law and treaty.

While this has been a capsule view of the direction we are taking, I do not want to give the impression that decisions have come quickly or easily. In a few cases there seemed to be a clear choice. But in all cases there were reasonable differences of opinion among many dedicated men and women both in and out of government. And the debate over these changes continues. The A.M.A. and many other organizations have taken part in the public debate and I urge you to continue.

I do want to add right here that I feel a deep personal sense of satisfaction at being able to turn to many members of this association for thoughtful advice and counsel and always receiving the measure of help I need.

This has been a hectic period in which many difficult management and policy decisions have had to be made. But I believe that thoughtful people will arrive at conclusions similar to those reached by the administration and will do what may be necessary to weather any rough seas that may appear.

But the turbulence will not last. When the waters calm down and the skies clear, I believe we will see the long-term benefits from this change in direction. The people of this country will have more direct control over the course of health and medical care. And we should be much closer than we are today in having available the highest quality of medical care for our people at the most reasonable cost.

In addition, we will see federal health policy based upon *what government does best and can pay for.* That development alone would make most of the current effort very worthwhile.

In that regard, it is reasonable to ask if we have a sense of what the government *does* do well. We do, and it is clearly expressed in our proposed budget and new legislation. Today I want to speak of three areas where the federal role is appropriate and will be strengthened in this administration: *Expanding our knowledge base through research, developing further the concept of prevention, and providing aid in emergencies.*

This country's capacity for high quality biomedical and behavioral research remains the envy of every other nation in the world. Here at home it is the foundation for all our medical care and, therefore, needs and deserves full federal support. Over half of the proposed budget for the public health service in fiscal 1982 is devoted to research—nearly $4 billion.

The expenditure of such a large amount of tax dollars requires the maximum involvement possible of scientists, physicians, researchers, and other concerned citizens in the development of our overall national research strategy. A number of physicians here today have taken part in the evolution of the federal research plan and we are indebted to you for that help. But to make the whole system really work for the people of this country, we need the participation of *every* physician in the application of research results to problems met in the actual practice of medicine. We are committed to helping this transfer of knowledge take place and need to hear the voice of medicine provide counsel to us on the matter.

In a related area, the Commissioner of the Food and Drug Administration, Dr. Arthur Hayes, is reviewing the drug approval procedures of that agency to see how they can be improved and the time shortened between the identification of a safe and effective product and its availability in the marketplace. Dr. Hayes is confident that the F.D.A. can make progress here, without in any way jeopardizing the public health or compromising the role of the prescribing physician.

The second major area—*prevention*—is one that Secretary Schweiker would like to place, as he says, "at the very top of the federal medical agenda." A number of categorial grant-in-aid programs are proposed for consolidation into a "preventive health service block grant" to the states. But the federal role is still important for the development, through research, of new prevention technologies and to support the teaching of prevention in our schools of medicine.

Even with our extraordinary research capacity, we cannot always come up with the methods to cure or repair mental or physical illness. As most practicing physicians know, the best help they can give some of their patients is good information about diet, a regimen of physical exercise, an introduction to smoking cessation programs or methods to reduce alcohol intake, or a referral to family counseling. These are methods to prevent an illness from occurring or spreading. They are part of the prevention armamentarium used by the contemporary physician. But it is also just the beginning; we have much more to do to help both physicians and the public take prevention more seriously.

The third area—*emergency aid*—is an activity of the federal government that we almost take for granted. However, it deserves more attention and better organization. The President has proposed a $20 million national emergency response fund to help move federal health and social service personnel into areas of sudden need, to work with state and local authorities on the scene, and provide vital backup in technology or other aid.

The government's record is exemplary and I am proud to be a colleague of the people who have been so important in times of great national need. Even some members of the public who may be skeptical of government will give high marks for the role played by federal personnel in the cases of Legionnaire's Disease and Toxic Shock Syndrome, in moving in to help people threatened by the Mount St. Helens eruption or the incidents at Love Canal and Three Mile Island, or in screening the thousands of individuals and families who sought sanctuary here from Southeast Asia, Cuba, Haiti, and other countries.

I hope this brief overview of this administration's direction in health policy indicates how seriously we take our assignment to change the way government has been doing things. But I hope I have also made clear that this is not a task for government alone.

Many of the developments I have described this afternoon have been goals of physicians for many years. We have said repeatedly that the quality of care was a professional concern and that we would take care of it. Our time has come to show how well we can do that.

We have said that state and local health authorities, working closely with professional groups, can make the best decisions as to the future of health and medical care for their citizens. We also believe that to be true and now we ask that you assume the responsibilities required of you, as physicians and as citizens, to make local, voluntary health planning work.

And we have said that the federal government is the most likely instrument for expanding the knowledge base which is so essential to the development of affordable quality health care.

In his book titled, *Reason in Science,* the philosopher George Santayana wrote, "There is a pathetic capacity in men to live nobly, if only they would give one another the chance." For many years I have sat here in the House of Delegates and have heard many people describe for us their vision of a better way of practicing our profession—their view of "living nobly" as men and women in medicine. But somehow, we never really gave each other the chance. The promise of nobility was never really fulfilled.

I think we still have our hopes and visions of a better way of doing things. I think we still can conceive of a "noble life" as physicians and as citizens of this very special country. Once again, our triumph here will be the standard for nations and peoples everywhere who also aspire to nobility, to the dignity that flows from good health and well-being.

The President is offering us "the chance." It is our *best chance,* it's worth taking . . . together.

Thank you.

Cost-Effectiveness of Neonatal Intensive Care

CONGRESSIONAL OFFICE OF TECHNOLOGY ASSESSMENT

A Case Study

The Congressional Office of Technology Assessment (OTA) has released a case study which examines the costs and effectiveness of neonatal intensive care.

The case study is one of 17 that comprise Background Paper #2 to OTA's assessment of "The Implications of Cost-Effectiveness Analysis of Medical Technology". The overall project was requested by the Senate Committee on Labor and Human Resources. This case study was prepared for OTA by: Peter Budetti, M.D., J.D.; Peggy McManus, M.H.S; Nancy Barrard, B.A.; and Lu Ann Heinen, B.A., all of the Health Policy Program at the University of San Francisco.

According to the case study, a newborn's weight is the most important predictor of illness or death in early infancy. The lower the weight, the worse are the baby's chances for survival. Approximately 230,000 infants weighing 2,500 grams (about five and ½ pounds) or less are born annually in the United States. Furthermore, the increase in the overall birth rate in the United States since 1975, mainly due to larger numbers of women entering the childbearing ages, has resulted in an increase in the number of newborns weighing 1,500 grams (approximately three and ¼ pounds) or less. Continued increases in the overall number of births and in the number of very small babies will expand the need for neonatal intensive care.

The case study concludes that over the past ten to 15 years, since neonatal intensive care methods have been used, there has been a dramatic improvement in the survival of low birthweight (2,500 grams or less) newborns. It is impossible to determine how much of this improvement is due to medical care, and how much is due to other factors such as lower prematurity rates and improved maternal health and nutrition. However, evidence strongly suggests that neonatal intensive care has played a major role in improving the chances of survival of many newborns.

The prediction that most of the survivors of neonatal intensive care would be severely handicapped has not been verified. Yet as the number of normal survivors has increased, so has the number of survivors who suffer from severe handicaps such as mental retardation and cerebral palsy. The case study estimates that in 1978, neonatal intensive care nationwide produced about 350 severely handicapped survivors of the very low birthweight group (1,500 grams or less) who would have died had they been born in 1960. But this figure must be weighed against a net increase of over 16,000 in the number of normal survivors. Thus, the overwhelming majority of survivors are normal, a small number have minor handicaps, and an even smaller number are severely handicapped. In this sense, the case study concludes that neonatal intensive care is effective.

Neonatal intensive care consists primarily of using highly sophisticated life-support systems to compensate for the infant's lack of full development. The most common technologies are respirators and positive pressure breathing devices for treatment of respiratory distress syndrome (RDS), a disorder caused by the infant being born before the lungs are ready for breathing air. RDS is responsible for nearly 20 percent of all neonatal deaths.

The hospital facilities delivering neonatal care are classified into three groups, depending on the sophistication and scope of the services provided. Level I hospitals provide minimal or normal newborn care; level II hospitals provide intermediate care; and level III hospitals provide the most intensive care. The major difference between level II and level III is the level III unit's capacity for continuous and constant care, as well as the immediate availability of specialists in fields such as cardiology and surgery.

Unfortunately, neonatal services in many hospitals do not reflect the three defined levels of care. Factors

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This case study has been prepared by the Office of Technology Assessment, established by the U.S. Congress as a resource to its members.

such as the rapid advancement of medical technology, the rising costs of medical equipment, and training requirements for medical personnel have led to a diversity of neonatal services provided at various hospitals in the same region. As a result, the services provided in different hospitals classified at the same level can vary considerably, making a standard level of care difficult to determine in practice.

The absence of uniform definitions has complicated data collection making statistical analysis difficult in terms of comparing cost or utilization data for different hospitals. For this analysis, the case-study authors adopt a broad definition of neonatal intensive care as the care provided in level II or level III nurseries.

According to the case-study, the costs of neonatal intensive care are directly related to birthweight and prematurity—the lower the weight and/or the earlier the birth, the higher the cost. The case study estimates the mean cost per patient in 1978 at about $8,000 for an average stay for 13 days. For the United States as a whole, this amounted to approximately $1.5 billion annually.

The case-study highlights several important aspects of the present return on the investment in neonatal intensive care. For example, care of infants weighing 1,000 grams or less is not effective, in economic terms, if one uses patient outcomes reported between 1971-1975 as compared with outcomes for 1960. This is because during the period 1971-1975 there was a small increase in the chance that a severely handicapped individual in that birthweight group would survive. In effect, the costs of caring for those few severely abnormal survivors outweighed, in economic terms, the benefits of an eightfold increase during that same period in the rate of normal survivors (from 17 to 135 per 1,000 live births in that birthweight group). However, withholding care from all newborns weighing 1,000 grams or less to avert the costs of caring for severely abnormal survivors would take the lives of many potentially normal babies. Thus, due to the many legal and ethical issues involved, such a decision could not be made on cost-effectiveness grounds alone.

The case study's economic analysis attempts only to determine whether neonatal intensive care is cost-effective when compared with less intensive care of ill newborns. It does not address the larger question of whether such care is cost-effective when compared with alternative programs.

OTA is a nonpartisan congressional support agency which analyzes complex issues involving science and technology for both Senate and House committees. OTA does not advocate particular policies or actions.

The OTA case study, "The Costs and Effectiveness of Neonatal Intensive Care," is available at the U.S. Government Printing Office (GPO), Superintendent of Documents, Washington, D.C. 20402. The GPO stock number is 052-003-00845-9; the price is $3.75.

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Opinions on Social Policy Issues

AMA JUDICIAL COUNCIL

Abortion

The Principles of Medical Ethics of AMA do not prohibit a physician from performing an abortion in accordance with good medical practice and under circumstances that do not violate the law.

Allocation of Health Resources

A physician has a duty to do all that he can for the benefit of his individual patients without assuming total responsibility for equitable disbursement of society's limited health resources. To expect a physician in the context of his medical practice to administer governmental priorities in the allocation of scarce health resources is to create a conflict with the physician's primary responsibility to his patients that would be socially undesirable.

Limited health care resources should be allocated efficiently and on the basis of fair, acceptable, and humanitarian criteria. Priority should be given to persons who are most likely to be treated successfully or have long term benefit. Social worth is not an appropriate criterion.

Utility or relative worth to society should not determine whether an individual is accepted as a donor or recipient of tissue for transplantation, selected for human experimentation, or denied or given preference in receiving scarce health care treatment or resources.

Artificial Insemination

The informed consent of the woman seeking artificial insemination and her husband are necessary. The prospective parents should be informed that any child conceived by artificial insemination is possessed of and entitled to all the rights of a child conceived naturally.

Artificial Insemination: *In Vitro* Fertilization and Embryo Transplantation

In vitro fertilization and embryo transplantation, when successfully performed, is one mechanism, among others, of human artificial insemination. This new method of human artificial insemination holds out new hope for couples who want children but have previously been unable to conceive. Artificial insemination by *in vitro* fertilization and embryo transplantation may allow women previously incapable of conception to bear normal, healthy children. This method of artificial insemination should be available to such women on the same terms and conditions as other medically acceptable mechanisms of artificial insemination. It is not unethical for a physician to perform such procedures within the confines of the professional physician-patient relation upon obtaining the patient's voluntary and informed consent. Only physicians with special knowledge and competence in the use of such procedures should perform them. The patient's expectations of confidentiality should be preserved in all instances.

Social questions on conception—such as potential fetal or newborn damage due to conception, selection of genetic characteristics, the use of surrogate parents, or single parenting—should not be confused with the appropriateness of any particular method of insemination. These social considerations are not unique to *in vitro* fertilization and embryo transplantation, but rather, could apply to any method of conception. Since *in vitro* fertilization and embryo transplantation is a new and experimental procedure, though, research studies are needed for the necessary medical knowledge and skills to be developed. Selecting and screening donors to control the transmission of infectious and genetic disease to the extent current knowledge permits should be required. To protect the interests of women

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Current Opinions of the Judicial Council of the AMA, 1981.

wishing to be involved in such research projects, the following guidelines should apply:

A. Voluntary and informed consent, in writing, should be given by the patient.

B. Alternative treatment or methods of care should be carefully evaluated and fully explained to the patient. If simpler and safer treatment is known, it should be pursued.

C. If possible, the risk to the embryo or fetus should be as minimal as is scientifically known to be possible.

These standards should also protect the interest of the fetus and potential newborn, to as great an extent as seems analytically possible.

Clinical Investigation

The following guidelines are intended to aid physicians in fulfilling their ethical responsibilities when they engage in the clinical investigation of new drugs and procedures.

1. A physician may participate in clinical investigation only to the extent that those activities are a part of a systematic program competently designed, under accepted standards of scientific research, to produce data which is scientifically valid and significant.
2. In conducting clinical investigation, the investigator should demonstrate the same concern and caution for the welfare, safety, and comfort of the person involved as is required of a physician who is furnishing medical care to a patient independent of any clinical investigation.
3. In clinical investigation primarily for treatment—
   A. The physician must recognize that the physician-patient relationship exists and that professional judgment and skill must be exercised in the best interest of the patient.

   B. Voluntary written consent must be obtained from the patient, or from his legally authorized representative if the patient lacks the capacity to consent, following: (a) disclosure that the physician intends to use an investigational drug or experimental procedure, (b) a reasonable explanation of the nature of the drug or procedure to be used, risks to be expected, and possible therapeutic benefits, (c) an offer to answer any inquiries concerning the drug or procedure, and (d) a disclosure of alternative drugs or procedures that may be available.

      i. In exceptional circumstances and to the extent that disclosure of information concerning the nature of the drug or experimental procedure or risks would be expected to materially affect the health of the patient and would be detrimental to his best interests, such information may be withheld from the patient. In such circumstances, such information shall be disclosed to a responsible relative or friend of the patient where possible.

      ii. Ordinarily, consent should be in writing, except where the physician deems it necessary to rely upon consent in other than written form because of the physical or emotional state of the patient.

      iii. Where emergency treatment is necessary, the patient is incapable of giving consent, and no one is available who has authority to act on his behalf, consent is assumed.
4. In clinical investigation primarily for the accumulation of scientific knowledge—
   A. Adequate safeguards must be provided for the welfare, safety and comfort of the subject. It is fundamental social policy that the advancement of scientific knowledge must always be secondary to primary concern for the individual.

   B. Consent, in writing, should be obtained from the subject, or from his legally authorized representative if the subject lacks the capacity to consent, following: (a) a disclosure of the fact that an investigational drug or procedure is to be used, (b) a reasonable explanation of the nature of the procedure to be used and risks to be expected, and (c) an offer to answer any inquiries concerning the drug or procedure.

   C. Minors or mentally incompetent persons may be used as subjects only if:

      i. The nature of the investigation is such that mentally competent adults would not be suitable subjects.

      ii. Consent, in writing, is given by a legally authorized representative of the subject under circumstances in which an informed and prudent adult would reasonably be expected to volunteer himself or his child as a subject.

   D. No person may be used as a subject against his will.

   E. The overuse of institutionalized persons in research is an unfair distribution of research risks. Participation is coercive and not voluntary if the participant is subjected to powerful incentives and persuasion.

Costs

While the physicians should be conscious of costs and not provide or prescribe unnecessary services or ancillary facilities, social policy expects that concern for the care the patient receives will be the physician's first consideration. This does not preclude the physician, individually, or through medical organizations, from participating in policy-making with respect to social issues affecting health care.

Fetal Research Guidelines

The following guidelines are offered as aids to physicians when they are engaged in fetal research:

1. Physicians may participate in fetal research when their activities are part of a competently designed program, under accepted standards of scientific research, to produce data which is scientifically valid and significant.
2. If appropriate, properly performed clincial studies on animals and nongravid humans should precede any particular fetal research project.
3. In fetal research projects, the investigator should demonstrate the same care and concern for the fetus as a physician providing fetal care or treatment in a non-research setting.
4. All valid federal or state legal requirements should be followed.
5. There should be no monetary payment to any legally authorized representative of a fetus to obtain any fetal material for fetal research projects.
6. Competent peer review committees, review boards, or advisory boards should be available, when appropriate, to protect against possible abuses that could arise in such research.
7. Research on the so called "dead fetus," mascerated fetal material, fetal cells fetal tissue, fetal organs, or the placenta should be in accord with state laws on autopsy and state laws on organ transplantation or anatomical gifts. Informed and voluntary consent, in writing, should be obtained from a legally authorized representative of the fetus.
8. In fetal research primarily for treatment of the fetus:
    A. Voluntary and informed consent, in writing should be given by a legally authorized representative of the fetus, acting in the best interest of the fetus.
    B. Alternative treatment or methods of care, if any, should be carefully evaluated and fully explained to a legally authorized representative of the fetus. If simpler and safer treatment is known, it should be pursued.
9. In research primarily for treatment of the gravid female:
    A. Voluntary and informed consent, in writing, should be given by the patient.
    B. Alternative treatment or methods of care should be carefully evaluated and fully explained to the patient. If simpler and safer treatment is known, it should be pursued.
    C. If possible, the risk to the fetus should be the least possible, consistent with the gravid female's need for treatment.
10. In fetal research involving a viable fetus, primarily for the accumulation of scientific knowledge:
    A. Voluntary and informed consent, in writing, should be given, as appropriate, by the patient or by a legally authorized representative of the fetus, under circumstances in which a prudent and informed adult would reasonably be expected to give such consent.
    B. The risk to the fetus imposed by the research should be the least possible.
    C. The purpose of the research is the production of data and knowledge which is scientifically significant and which cannot otherwise be obtained.
    D. In this area of research, it is especially important to emphasize that care and concern for the fetus should be demonstrated. There should be no physical abuse of the fetus.

Genetic Engineering

Whatever form of regulation of gene splicing, recombinant DNA research, chemical synthesis of DNA molecules, or other genetic engineering research is eventually developed, there should be independent input from the scientific community, organized medicine, industry, and others, in addition to the federal government, to prevent abuse from any sector of society, private or public.

If and when gene replacement with normal DNA becomes a practical reality for the treatment of human disorders, the following factors should be considered:

1. If procedures are performed in a research setting, reference should be made to the Judicial Council's guidelines on clincial investigation and human experimentation.
2. If procedures are performed in a non-research setting, adherence to usual and customary standards of medical practice and professional responsibility would be required.
3. Full discussion of the proposed procedure with the patient would be required. The consent of the patient or his legal representative shoud be informed, voluntary, and written.
4. There must be no hazardous or other unwanted virus on the viral DNA containing the replacement or corrective gene.
5. The inserted DNA must function under normal control within the recipient cell to prevent metabolic damage that could damage tissue and the patient.
6. The effectiveness of the gene therapy should be evaluated as best as possible. This will include determination of the natural history of the disease and follow-up examination of subsequent generations.
7. Such procedures should be undertaken in the future only after careful evaluation of the availability and

effectiveness of other possible therapy.If simpler and safer treatment is known, it should be pursued.

8. These considerations should be reviewed, as appropriate, as procedures and scientific information are developed in the future.

Organ Transplantation Guidelines

The following statement is offered for guidance of physicians as they seek to maintain the highest level of ethical conduct in the transplanting of human organs.

1. In all professional relationships between a physician and his patient, the physician's primary concern must be the health of his patient. He owes the patient his primary allegiance. This concern and allegiance must be preserved in all medical procedures, including those which involve the transplantation of an organ from one person to another where both donor and recipient are patients. Care must, therefore, be taken to protect the rights of both the donor and the recipient, and no physician may assume a responsibility in organ transplantation unless the rights of both donor and recipient are equally protected.
2. A prospective organ transplant offers no justification for a relaxation of the usual standard of medical care. The physician should provide his patient, who may be a prospective organ donor, with that care usually given others being treated for a similar injury or disease.
3. When a vital, single organ is to be transplanted, the death of the donor shall have been determined by at least one physician other than the recipient's physician. Death shall be determined by the clinical judgment of the physician. In making this determination, the ethical physician will use all available, currently accepted scientific tests.
4. Full discussion of the proposed procedure with the donor and the recipient or their responsible relatives or representatives is mandatory. The physician should be objective in discussing the procedure, in disclosing known risks and possible hazards, and in advising of the alternative procedures available. The physician should not encourage expectations beyond those which the circumstances justify. The physician's interest in advancing scientific knowledge must always be secondary to his primary concern for the patient.
5. Transplant procedures of body organs should be undertaken (a) only by physicians who possess special medical knowledge and technical competence developed through special training, study, and laboratory experience and practice, and (b) in medical institutions with facilities adequate to protect the health and well-being of the parties to the procedure.
6. Transplantation of body organs should be undertaken only after careful evaluation of the availability and effectiveness of other possible therapy.

Quality of Life

In the making of decisions for the treatment of seriously deformed newborns or persons who are severely deteriorated victims of injury, illness, or advanced age, quality of life is a factor to be considered in determining what is best for the individual.

In caring for defective infants, the advice and judgment of the physician should be readily available, but the decision whether to treat a severely defective infant and exert maximal efforts to sustain life should be the choice of the parents. The parents should be told the options, expected benefits, risks, and limits of any proposed care; how the potential for human relationships is affected by the infant's condition; and relevant information and answers to their questions.

Terminal Illness

The social commitment of the physician is to prolong life and relieve suffering. Where the observance of one conflicts with the other, the physician, patient, and/or family of the patient have discretion to resolve the conflict.

For humane reasons, with informed consent a physician may do what is medically necessary to alleviate severe pain, or cease or omit treatment to let a terminally ill patient die, but he should not intentionally cause death. In determining whether it is in the best interest of a terminally ill incompetent patient to administer potentially life-prolonging medical treatment, the physician should consider what the possibility is for extending life under humane and comfortable conditions and what are the wishes and attitudes of the family or those who have responsibility for the custody of the patient.

Where a terminally ill patient's coma is beyond doubt irreversible and there are adequate safeguards to confirm the accurancy of the diagnosis, all means of life support may be discontinued.

Unnecessary Services

It is unethical for a physician to provide or prescribe unnecessary services or unnecessary anciliary facilities.

Principles of Medical Ethics

AMERICAN MEDICAL ASSOCIATION

Preamble:

The medical profession has long subscribed to a body of ethical statements developed primarily for the benefit of the patient. As a member of this profession, a physician must recognize responsibility not only to patients, but also to society, to other health professionals, and to self. The following Principles adopted by the American Medical Association are not laws, but standards of conduct which define the essentials of honorable behavior for the physician.

I. A physician shall be dedicated to providing competent medical service with compassion and respect for human dignity.

II. A physician shall deal honestly with patients and colleagues, and strive to expose those physicians deficient in character or competence, or who engage in fraud or deception.

III. A physician shall respect the law and also recognize a responsibility to seek changes in those requirements which are contrary to the best interests of the patient.

IV. A physician shall respect the rights of patients, of colleagues, and of other health professionals, and shall safeguard patient confidences within the constraints of the law.

V. A physician shall continue to study, apply and advance scientific knowledge, make relevant information available to patients, colleagues, and the public, obtain consultation, and use the talents of other health professionals when indicated.

VI. A physician shall, in the provision of appropriate patient care, except in emergencies, be free to choose whom to serve, with whom to associate, and the environment in which to provide medical services.

VII. A physician shall recognize a responsibility to participate in activities contributing to an improved community.

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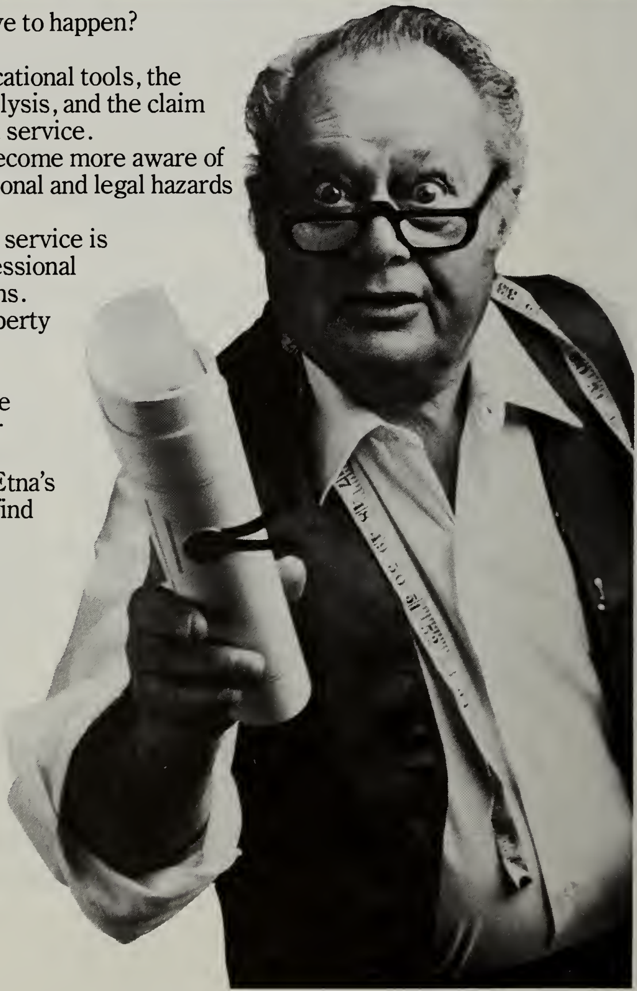

Current Medicolegal Issues

THE CITATION

Physician Obligated by Contract to Treat Emergency Room Patient

A physician on call in a hospital emergency room was obligated to treat a patient who was suffering from acute hyperglycemia, an Arizona appellate court ruled.

Eight physicians with admitting privileges at the community hospital established a procedure whereby they each took a 12-hour on call shift to provide emergency room coverage. The on call physician was paid by the hospital at a basic rate of $100 for each shift served. Emergency patients and resident patients needing immediate attention were referred to the on call physician.

On June 12, 1973, at about 11:45 p.m., the patient was taken to the emergency room by her husband. She was semi-comatose and the nurse in charge evaluated her as very ill. She had juvenile onset diabetes of the brittle variety and had been treated by her regular physician in the emergency room on the preceding day. The nurse called the physician on call. After being told who the patient was, he stated that he would not attend or treat her.

The nurse then called the patient's regular physician, who responded that he would not come to the hospital and that the on call physician should attend her. The nurse relayed that information to the on call physician and he again refused to attend the patient. The nurse then called the chief of staff of the hospital, who talked to the on call physician and then came to the hospital himself to treat her.

About 40 minutes elapsed between the time the patient arrived and the time the chief of staff arrived. The chief of staff stayed at the hospital throughout the night until the patient's regular physician arrived in the morning. The patient died at 11:00 a.m. that morning.

The patient's husband sued the on call physician for alleged malpractice.

The physician stated the reason he refused to treat the patient was based on his inability to treat diabetes adequately. There was also evidence that the refusal was based on personal animosity between the patient and the physician or the fact that her husband was a lawyer. A trial court granted summary judgment in favor of the physician, and the patient's estate appealed.

Reversing the trial court's decision, the appellate court said that the physician was obligated by contract between himself and the hospital to treat the patient to the best of his ability. The court recognized the general rule that a physician was free to choose his own patients and could refuse to treat anyone, even under emergency conditions. However, the physician had agreed to be bound by the hospital bylaws and rules and had accepted payment to act as emergency room physician on call. He could not refuse to treat anyone who was admitted to the emergency room, the court said.

The estate had to prove by expert testimony that the patient probably died because of the 40-minute delay in testing and treatment. There was a substantial issue of fact concerning that question and summary judgment was improper, the court said in remanding the case for further proceedings. —*Hiser v. Randolph,* 617P.2d774 (Ariz. Ct. of App., July 29, 1980; rehearing denied, Sept. 9, 1980; review denied, Sept. 23, 1980).

Indiana Malpractice Act Not Unconstitutional

The Indiana Medical Malpractice Act was not unconstitutional, an Indiana appellate court ruled.

A patient filed suit against three physicians and three hospitals for alleged negligence causing her personal injuries. Her parents sought damages for loss of services of their daughter and for her medical expenses. At the time of the filing of the malpractice suit, the patient and her parents had filed a copy of the proposed complaint with the commissioner of insurance as

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THE CITATION is a newsletter on medicolegal issues prepared by the Office of The General Counsel of the American Medical Association.

required by the Malpractice Act. No medical review panel was ever convened and no written opinion was rendered on the claim. A trial court granted summary judgment for the health care providers on the ground that a medical review panel had to render a written opinion before a court had jurisdiction to hear the case.

Affirming the decision, the appellate court concluded that the Malpractice Act was not unconstitutional. All persons having causes of action for malpractice were subject to and must comply with the Act, the court said. The Act was ambiguous and unclear on whether parents' actions for loss of services of a minor child and for medical expenses were subject to the Act, the court said. The Court viewed the Act from a historical perspective and determined that the parents' action was subject to the Act. —*Sue Yee Lee v. Lafayette Home Hospital, Inc.,* 410 N.E.2d 1319 (Ind. Ct. of App., Sept. 29, 1980)

Idaho Malpractice Act Held Unconstitutional

The Idaho Liability Limitation Act was unconstitutional because it would not substantially affect the availability of professional liability insurance at reasonable expense, an Idaho trial court ruled.

Several physicians and hospitals filed suit to test the constitutionality of the Liability Limitation Act. The Act limited damages in malpractice actions against physicians to compensatory damages not previously paid and not to exceed $150,000 per claim and $300,000 per occurrence. Actions were limited to common law negligence and the patient's attorney fees were limited. The Act also required all physicians and hospitals to obtain medical malpractice insurance as a condition to licensure.

On remand by the Idaho Supreme Court, the trial court was directed to review the Screening Act, as well. The Screening Act provided for a compulsory but non-binding hearing before a screening panel before suit could be filed. The results of the hearing were not useable in any way at trial.

The trial court set out the issues and the principles of law that the Supreme Court had directed it to apply to those issues. The court stated that it would apply a different equal protection standard than the one mandated by the Supreme Court if it were free to make its own decision.

Responding to the questions asked by the Supreme Court, the trial court said that there was no medical malpractice insurance crisis in Idaho in terms of unavailability of health care nor evidence of insurance premiums increasing faster than they could be absorbed by physicians. Noting that insurance premiums were $750 to $1,000, with higher premiums in high-risk specialty fields, the court said that physicians and hospitals were not charged excessive, grossly unfair premiums. The court also stated that increases in premiums were reasonably related to costs experienced by malpractice insurance carriers.

The court determined that malpractice insurance would be available at reasonable rates in the absence of the legislation and there was no threat of unavailability of health care to the people of Idaho. Nor was there an increased rash of claims and sizable recoveries as a result of medical malpractice, the court said.

In conclusion, the trial court said that the Liability Limitation Act was unconstitutional because it violated the equal protection rights of physicians under the standard mandated by the Supreme Court. As for the Screening Act, it was completely innocuous and was constitutional, the court concluded. —*Jones v. State Board of Medicine,* Case No. 55527 (Idaho Dist. Ct., Nov. 3, 1980)

Hospital Sued For Death of Patient

A complaint stated a cause of action for wrongful death against a hospital, an Illinois appellate court ruled.

A patient went to the emergency room of the hospital on June 29, 1974, where he was examined and treated. He was released after three hours. The next day he suffered a fatal heart attack. The patient's estate filed a wrongful death action against the hospital, alleging that it permitted an unqualified physician to treat and diagnose the patient and interpret the electrocardiogram. The estate sought damages on behalf of the patient's two children. A trial court dismissed the complaint, and the estate appealed.

Reversing the decision, the appellate court said that the complaint alleged a cause of action against the hospital with sufficient specificity. The complaint alleged that the patient went to the hospital, was treated and released, and died the next day, that the hospital permitted an unqualified physician to diagnose and treat him and that the hospital failed to comply with JCAH standards and rules of the state Department of Health issued under the Hospital Licensing Act. The allegations were sufficient to state a cause of action, the appellate court said. —*Holton v. Resurrection Hospital,* 410 N.E. 2d 969 (Ill. App. Ct., Sept. 11, 1980)

Month in Washington

American Medical Association Executive Vice President James H. Sammons, M.D., has testified before the Health and Environment Subcommittee of the House Energy and Commerce Committee that the AMA and America's physicians have been successful in doing their part to keep health care delivery expenses under control. It is nationwide inflation, Dr. Sammons explained, that is the real culprit in unnecessarily spiraling costs.

"As inflation moderates, we fully expect the medical care sector to be able to achieve reductions in the rate of growth of health care costs," Dr. Sammons added.

Appearing before the Subcommittee with Dr. Sammons were Alex McMahon, American Hospital Association President; Michael D. Bromberg, Executive Director of Federation of American Hospitals, and Paul W. Earle, Executive Director of VE (Voluntary Effort).

Dr. Sammons emphasized that the AMA and the country's physicians are very concerned with growing health care delivery costs and the increased percentage these costs take of the Gross National Product (GNP), but emphasized that improvements in the field have necessarily generated some increase.

"Medical care cannot be delivered without cost," stated Dr. Sammons, saying that as care, quality and accessibility to care improve and the elderly utilize more services, increases in the medical care costs are inevitable. "Such occurrence does not merit blanket condemnation," he said.

"In 1976 the AMA established the National Commission on the Cost of Medical Care, a group of 27 national leaders from health, government, insurance, labor and industry who spent 18 months drafting 48 cost-effective recommendations," the AMA spokesman testified.

"One year later, the AMA joined with the American Hospital Association and the Federation of American Hospitals to initiate the Voluntary Effort, a program designed to lower hospital cost increases without compromising care quality. VE has since expanded to include Blue Cross/Blue Shield, the Health Industry Manufacturers' Association, the Health Insurance Association of America and the National Association of Counties."

Dr. Sammons noted that by reducing the number of diagnostic tests and streamlining office practices, individual physicians have reduced their share of the total health care costs, accounting for only 18.9 percent of the $247 billion spent on health care in 1980 as compared with 19.1 percent of the $74.4 billion spent in 1970. He added that this is significant in light of a 36 percent increase in the number of physicians and a Consumer Price Index (CPI) jump of over 100 percent for the same period.

"In March 1981 physicians failed, for the first time, to meet their VE goal of staying below the CPI's All Items Index. Part of the reason is the rising cost of maintaining a medical practice," Dr. Sammons said, mentioning that the cost of the average practice is now $54,500 annually, amounting to 40.3 percent of gross income, as compared with a 1970 figure of $24,300 representing 36.8 percent of gross income.

"It is our belief that physicians have acted responsibly in their fee setting practices during a period of unprecedented inflation," Dr. Sammons testified.

AMA efforts to meet rising costs have been substantial, Dr. Sammons explained, including the Cost-Effectiveness Evaluation Network, which involves hospital medical staffs in developing cost effective methodologies in an actual hospital setting. Sammons also pointed out that the AMA has successfully urged more than 90 U.S. medical schools to add cost consciousness to their curriculum.

Furthermore, the Accreditation Council for Graduate Medical Education requires resident physicians to apply cost effective measures to their practices.

"The most recent AMA effort has been the development of the Coalitions for Health Care, in which local delivery systems are being analyzed by doctors, insurors, business and labor leaders and other concerned groups for effective cost containment practices." Sammons also noted that such coalitions create a strong base for implementation of existing cost reduction efforts.

"The AMA has and will continue to take an active role to assure the delivery of high quality medical care," Dr. Sammons concluded. "We are also pledged to seek means to see that this care is delivered in the most cost effective manner."

* * * *

The Social Security Administration has launched a sweeping review of the 4 million people receiving disability benefits. As many as 150,000 people may be dropped from the program this fiscal year. Social

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Prepared by the Washington, D.C.
Office of the American Medical Association

Security has alerted physicians to expect "a substantial increase in requests for medical reports."

The increase in requests for special consultative examinations "will be even more substantial because the majority of the beneficiaries will not have seen their own physician recently," Social Security said.

Additional physician consultants will be recruited by the State Disability Determination Services to handle the increased periodic review workload. More physicians to handle the consultative exams will be needed.

The crackdown results from a 1980 Congressional law requiring Social Security starting this January to review nearly every disabled case at least once every three years. The basic purpose is to determine whether the beneficiary is currently unable to work.

Noting that beneficiaries may express concern to their physicians about the reviews, Social Security urged physicians to point out to their patients that they, the physicians, do not give an opinion or participate in the decision on whether the patients are disabled. These decisions are made only by the State Disability offices.

"Over the past few years, Social Security disability benefits came to be regarded by some beneficiaries as a permanent, lifetime entitlement—that benefits would continue until they retired, died or chose to go back to work," said Social Security. "So there is going to be a lot of unhappiness and confusion for the next two to three years as disability benefits are terminated for thousands of Americans."

Emphasized the federal agency: "Social Security disability benefits, in most cases, are intended as a temporary help until people can overcome their impairment and return to work." The benefits in the future will be used "only for those who are really unable to work because of a medically determinable disability—as the law intends."

The review of more than 500,000 claims this fiscal year has important implications for physicians, Social Security said, listing them as:

- The beneficiary's treating physician will be asked to furnish an updated report showing the patient's current condition.
- Where information from the treating sources is insufficient to make a new determination of disability, a consultative examination will be arranged to get the needed data.
- Some patients are going to be upset about having to, in effect, reestablish their entitlement to disability benefits.
- In addition to state offices, Social Security's regional offices and headquarters will be looking for additional medical consultants. The agency estimates it will be spending almost $240 million next fiscal year on payments for medical evidence of record and consultant examinations, compared with $138 million last fiscal year and $190 million in the current fiscal year. More than 800,000 cases are slated for review in the fiscal year that starts next October.

Social Security issued some tips for physicians with disabled patients:

- Patients may call soon after receiving notice their claims are to be reviewed. If the physicians have been seeing the patients regularly and have complete information about the impairments, they should advise the patients they will send in the medical reports promptly. The patients should be reminded that the physicians do not make the disability determination.
- If patients have not been seen recently, physicians may suggest a prompt, thorough examination.
- Patients may call physicians after notification they are not disabled within the meaning of the law. If physicians have already submitted a recent medical report, they should note that they had no part in the finding. But if a medical report for the review was not submitted, and the patient wishes a report, the physicians may want to conduct a special examination, since such beneficiaries have 10 days to submit information for the government to reconsider its decisions.

* * * *

Congress has approved an extra four percent cut in most health programs as part of the stop-gap government spending bill meeting President Reagan's request for an additional $4 billion reduction in funding levels.

Passage of the measure by House and Senate shortly before adjournment was a victory for the Administration. President Reagan last September had called for new spending slashes. Last month he vetoed a continuing spending resolution that fell short of the President's budget goals.

The $413 billion continuing resolution adopted by Congress runs through the end of March, but the lawmakers are likely next year to extend the resolution through the end of the current fiscal year, Oct. 1.

The budget situation for health programs at the moment is confused, but the measure basically calls for spending at a rate which is the lower of the House-passed Health and Human Services (HHS) Department appropriations bill or the Senate Appropriations Committee bill, along with an overall four percent reduction.

Medicare and Medicaid were not subject to the cut.

Congress added some funds for health programs, including $16.5 million for the maternal and child health block grant and $24 million for community health centers.

Think "P.R." as the Doctor Supply Threatens Your Practice

LEIF C. BECK, LL.B., CPBC AND GEOFFREY T. ANDERS, J.D.

Physicians are by their nature not particularly interested in the rather disdained fields of marketing, advertising and "public relations." Doctors decided on their lines of work for reasons tied to technical interest and service to others, which reasons are incompatible with the thought of "selling." In fact, as we have pressed our medical clients to more affirmatively market their practices the responses have often been blank stares.

Well, the times are changing and it behooves physicians to change with them. Government studies and responsible articles follow one upon the other to demonstrate the increasing oversupply of physicians, expected to reach large numbers during this decade.

Newer practices must thus compete harder for patients if the owners will prosper. These doctors cannot simply sit back in satisfaction that superb training will guarantee them a flow of patients. It will be necessary to spend more time in *public relations*—building one's practice.

Physician advertising is beginning to appear and will increase dramatically over the next decade. The newer practices will find ways to tell of favorable fee schedules, actual participation in Blue Shield and/or Medicare, and expertise in special procedures. And medical specialists will more heavily promote their characteristics to referral sources, chipping away at the single-source referrers many specialists enjoy today.

Successful existing practices cannot ignore these pressures. Because good physicians built their practices with no apparent concern for public relations, they may consider marketing to be unprofessional—beneath their quality. But when these successful practices see their existing patient bases breaking down, they will have to change their thinking.

We are urging our clients to be out ahead of these trends. Doctors can think "p.r." and still emphasize highest quality medicine, so they might as well do so before it becomes a matter of self-preservation. They can improve their office decor, weed out unsympathetic or unfriendly assistants and plan schedules so patients are seen on time. They can develop patient newsletters and create follow-up letter or phone call routines.

In so many ways, doctors can use "p.r." thinking to make their patients "satisfied customers" who are most likely to remain as patients and to tell their friends. We think this type of physician emphasis will become essential, so there's no sense in putting it off.

ACTION NOTE—Start thinking "public relations" to maintain your practice before the increasing doctor supply threatens your patient base—before it's too late.

LEIF C. BECK, LL.B., CPBC and GEOFFREY T. ANDERS, J.D., Principal attorneys and consultants of Management Consulting for Professionals, Inc., Bala Cynwyd, Pennsylvania.

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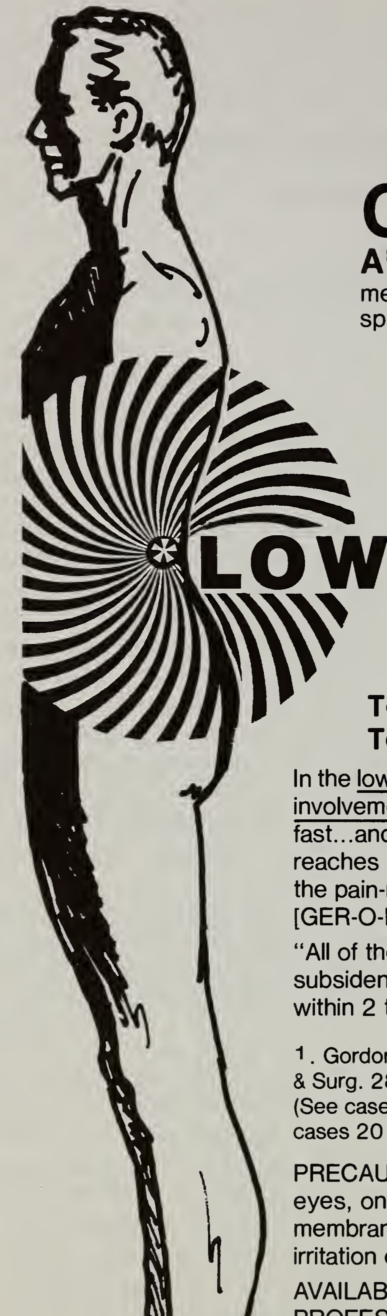

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[1]. Gordon, E.E. and Haas, A., Indust. Med. & Surg. 28:217, 1959. (See cases 2, 10, 15, 18, 35, 36 in Table I; cases 20 and 31 in Table II).

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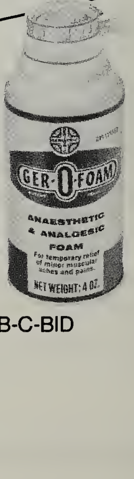

Reflections from the Dean's Office

As Others See Us

ROBERT U. MASSEY, M.D.

Tradition has it that the author of the third Gospel was a physician; some biblical scholars claim that he used medical terms more than the other evangelists. A Roman referred to as "Luke, the beloved physician," was Paul's doctor, and almost certainly he was the same Luke who wrote the Acts of the Apostles and the Gospel which carries his name.

In the account of the healing of the woman with an issue of blood, there is persuasive evidence. The author of Mark's Gospel wrote that "in spite of long treatment by doctors, on which she had spent all she had, there had been no improvement; on the contrary, she had grown worse."[1] When Luke told the same story, he said simply that "nobody had been able to cure her."[2] Another version of Luke's words suggested that the problem lay within her, declaring that she was one "who had not strength to be healed by any."

The economics of medical care seemed to be of less concern to the physician Luke than to the layman Mark. Luke would have understood the doctrine of *vis mediatrix naturae,* which taught that cure depended as much upon nature as upon the physician's skill, whereas Mark laid the blame for a series of therapeutic failures squarely at the physicians' feet.

This hardly proves that the Evangelist Luke was the "beloved physician" mentioned by Paul, but it does reveal in him at least two aspects of the physician's point of view, and illustrates how differently patients and doctors may see medicine and the cost of medical care.

There is no easy way around those differences. Our patients expect not only to be cared for but to be cured, and believe that the treatment itself will effect that cure. Most know better, of course, and know that either they or their cells and organs must somehow cooperate in the healing, and moreover they know that some things will not ever get better; they know that, but they feel, just as physicians do when they are patients, the magic of the physician's skill and the healing power of the drug. Cynics may deny that faith, and melancholics may lack both the hope and the desire to be healed, but when failure comes, the impulse to rage against the agent is strong.

Physicians, knowing the limits of their science and skill, are nevertheless caught up in the hopes and most of the beliefs of their patients; they are prepared always to take the next step, and the next, unless they are certain that the struggle is in vain. Even then they acknowledge that with difficulty, no matter how shrill some ethicists become in insisting that they learn to face up to it, nor how often the planners and the economists warn us that, unless we set limits, we shall spend the entire gross national product on medical care by the year 2050, just as the woman in Mark had spent all that she had.

It is not as though we value health above all other values, although that has come to be part of our culture. It is rather that pain, depression, and disability must be dealt with, and, whenever possible, death forestalled. Relief is an insistent value that will not be denied or devalued, and in this early stage of scientific and technological development, relief will come at ever higher costs before it gets much cheaper.

We do not believe in utopias anymore; this century with its two World Wars and threat of nuclear holocaust has taken away hope and faith in inevitable progress. Medicine has progressed, however, and a kind of medical utopia may not be entirely out of reach; there are major hurdles, but not many, and once we have learned to prevent or cure atherosclerosis, cancer, and schizophrenia, we shall be able to meet more of our patients' expectations without spending all they have; the new science and the new technology will be cheaper, its cost declining as its effectiveness goes up. But patients will see us then as they do now, expecting relief, cure, and death forestalled; the two versions of Mark and Luke will be heard as often in the twenty-first century as they were in the first.

ROBERT U. MASSEY, M.D., Professor and Dean, School of Medicine, University of Connecticut Health Center, Farmington.

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1. Mark 5: 25-27, New English Bible
2. Luke 8: 43-44, New English Bible

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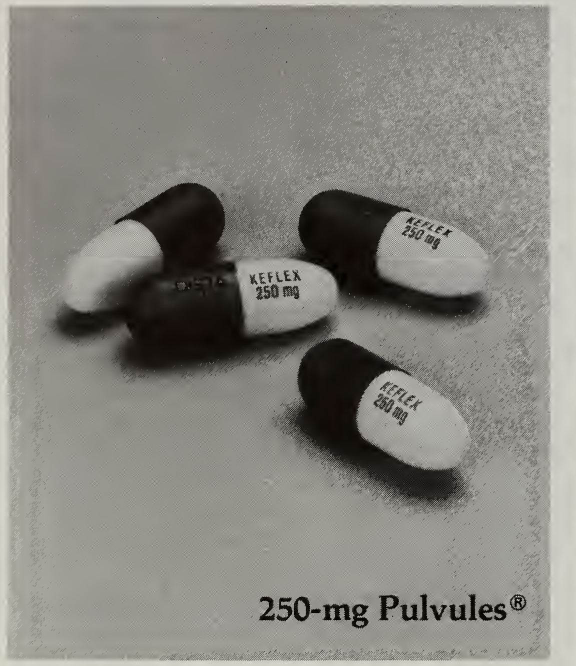

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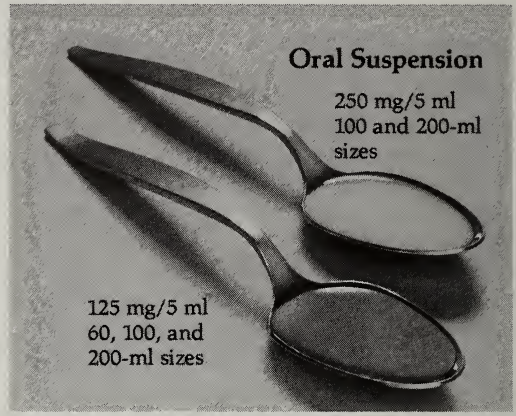

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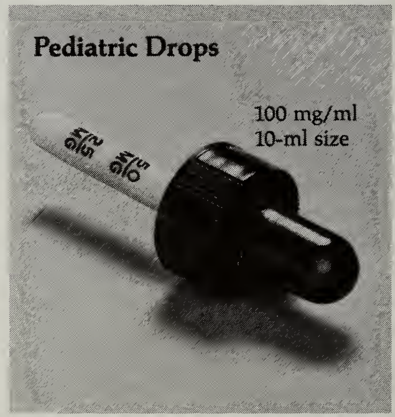

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Connecticut Medicine
The Journal of the Connecticut State Medical Society
160 St. Ronan Street, New Haven, CT 06511

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EDITORIALS

Would You Believe . . .

. . . that the American Medical Association is a democratic institution? This is what our Society Presidents would have us believe, for they have been saying it on their President's Page for years. Any unanimity among practitioners is unusual. This agreement on such a contrary theme is extraordinary, especially in such a subset of physicians. This group, if nothing else, makes up a very critical contingent. Why the consensus? What have the Presidents observed to contradict what is usually considered the antithesis of democracy—controlled by a small, self-perpetuating, reactionary cadre resistant to change and physician participation?

First of all, they have observed the House of Delegates in action with its early morning caucuses, long lines of physicians waiting in front of microphones to testify and reference committees working into the small hours as they complete their reports to the House. They recognize that the House is a broad based organization with membership approaching three hundred delegates. It represents all states and territories, over sixty specialty organizations, the armed forces, medical school deans, students and resident physicians. The officers are all selected from the House in open election for limited terms of office. The staff, able and well organized, is very much in evidence, but clearly "on tap, not on top." Each is now aware that over fifty percent of the transacted business of the House originates from its members. Any resolution, recommendation or policy, regardless of content or scope, is guaranteed presentation before a Hearing Committee of peers with unrestricted debate. They have heard recommendations of the Board of Trustees modified, or even rejected, by the House as it carefully guards its right of final approval of all planning and implementation. As a result, any position taken by the AMA officers, interacting with outside agencies, has already been endorsed by a House majority. Finally, our Presidents have been impressed not only by the input and participation of the delegates, but that these same activities are supported and encouraged by the leadership. Our Connecticut Presidents know all about contentious democracy. What they admire nationally is evidence of a participatory democracy.

On other pages in this issue of *Connecticut Medicine* is an example of this admired participation. It is a reproduction of a report on AMA Reference Committee D submitted by William A. Whalen, M.D., an alternate delegate to the AMA, to his own medical staff for their information. This Committee, one of nine meeting at the same time, receives all reports and resolutions dealing with the hospital-physician interface. The outstanding quality of the report is a given. Read it for insight into the process and relevancy of the subject matter.

There is a flip side to the coin of all this democracy in action. The majority rules but not always happily. One's own resolution may be rejected or so modified as to be no longer recognizable. Some issues are so controversial that the membership becomes polarized. Acceptable compromise, which is the glue of all democratic action, is not feasible. This is when we hear of the dissention and dissatisfaction with threats of resigning and dropping out. Where to? There is no other effective medical organization at the national level that represents all physicians, fosters our participation and actively seeks our input. It does so many things that we cannot do for ourselves and cannot be accomplished by our other societies. It is our own fault, not the AMA's, which results in policy decisions that are not to our liking. The answer is more involvement, not less.

The Presidents are correct. The AMA is a democratic institution and it is the membership that makes it so. Participation is the key!

Guy W. Van Syckle, M.D.

Editorials are expressions of personal opinion and do not necessarily reflect the policies of CSMS.

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AMA News from the Executive Vice President's Office

AMERICAN MEDICAL ASSOCIATION

AN AMA PROGRAM TO PROVIDE PATIENTS —through their physicians—with written information about prescription drugs will be in operation by mid-year. The first series of Patient Medication Instruction sheets (PMIs), designed to supplement the physician's oral instructions, will cover ten widely prescribed drugs. Eventually, as many as 200 medications are expected to be included in the voluntary program.

Meanwhile, the Food and Drug Administration announced that it plans to drop its controversial pilot program requiring patient package inserts on ten prescription drugs. In a joint statement, Health and Human Services Secretary Richard Schweiker and FDA Commissioner Arthur Hayes, MD, noted the acceleration of voluntary private sector efforts to assume responsibility for educating patients about drugs and referred to the development of the AMA's PMI program. The FDA will allow 60 days for public comment before taking final action.

"This department remains committed to the need for patients to have more information about prescription drugs," the government officials said. "The question is what is the best system or systems for providing that information. Our review of the ten-drug pilot program developed last year showed it to have significant limitations and to impose unreasonable constraints on the health care system. Moreover, we learned during our review that many physicians, pharmacists and other health professionals believe there are more effective and cost-efficient ways to bring information to consumers."

Under the AMA-PMI Program, which was approved by the Board of Trustees last month, single-sheet PMIs on a given drug will be bound into pads of approximately 100. Physicians will be able to purchase sets of PMIs for drugs routinely prescribed. A collection of the various PMIs will be made available to physicians who prefer to reproduce them. The scientific basis for the PMIs will be the Association's authoritative compendium, *AMA Drug Evaluations.* Physicians and scientists from the AMA Division of Drugs will serve as principal consultants.

Each PMI will include blank spaces for the patient's name, the specific dosage, special instructions, and the physician's name, address and telephone number. Printed on the PMI will be general instructions applicable to all prescriptions, reasons for prescribing the specific drug (what it is expected to do), instructions on how to take the specific drug, warnings on what to avoid while taking it, and possible side effects. For further information on the AMA-PMI Program, contact Division of Drugs, AMA Headquarters (312) 751-6540.

CONGRESS WILL BE ASKED TO ENACT LEGISLATION giving the government the power to crack down on health professionals who have defaulted on student loans, HHS Secretary Richard Schweiker said. Staff of the Senate Governmental Affairs Subcommittee reported that 50,000 health professionals, including more than 5,000 physicians, are seriously delinquent in repaying Health Professions Student Loans and Nursing Student Loans.

Under the loan program, HHS makes the money available to schools which lend it to qualified students. The schools are responsible for repayment from students. As many as 30% of borrowers may be delinquent in repaying some $20 million, Schweiker said.

THE NUMBER OF APPLICANTS FOR MEDICAL SCHOOL declined for the sixth consecutive year in the 1980-81 academic year, according to the 81st Annual Report on Medical Education published in the Dec. 25, 1981 issue of *JAMA.* There were 36,100 applicants last year, only a slight decrease from the 36,141 the year before but a 15.3% decrease from the peak year 1974-75.

Of the 36,100 applicants, 17,146 were accepted and total enrollment reached 65,497, a record number. In the 1979-80 academic year total enrollment was 64,195. Of the 15,667 graduates in 1980-81, 59.3% accepted residencies in the primary care specialties of internal medicine, family medicine, pediatrics, or obstetrics-gynecology.

AMA Newsletter, JAMES H. SAMMONS, M.D., Executive Vice President.

The number of residents decreased from 64,615 in 1979 to 61,819 in 1980. The number of women residents increased from 12,431 in 1979 to 13,738 in 1980. In the 1980-81 training year women comprised more than 22% of trainees. The percentage of women residents in internal medicine, family practice, and obstetrics-gynecology has increased during the past three years, while the percentages in pathology, pediatrics, and radiology decreased.

A BILL TO LIMIT THE FTC's JURISDICTION over professions that are regulated by the states was introduced in the Senate. The bill has bipartisan backing. Sen. James McClure (R-Ida.) said the measure (S 1984) "would end the suppression of self-regulation by preventing the Federal Trade Commission from initiating any more actions against the professions or their non-profit associations." The proposal is similar to a draft bill by the AMA.

MODEL STATE LEGISLATION designed to combat the proliferation of imitation controlled substances has been prepared by the AMA and sent to the executive directors of state medical associations and medical specialty societies. The model bill was developed following action by the House of Delegates at the 1981 Interim Meeting. Medical associations are urged to consider the bill for introduction in state legislatures. It would prohibit the manufacture, processing, packaging, distribution, delivery and sale of products containing over-the-counter ingredients that resemble, and are represented to be, controlled substances with high abuse potential.

THE NEW AMA OFFICE BUILDING IN WASHINGTON, D.C., will be 90% occupied when it is dedicated on April 6. The AMA Washington Office, which will occupy two floors of the 12-story building at 1101 Vermont Ave., N.W., is scheduled to move in on March 1. Medical, scientific, and commercial organizations will lease office space on the other ten floors.

First occupant of the building—on Dec. 21, 1981, was the American Society of Internal Medicine. ASIM's new address will be 1101 Vermont Ave., N.W., Suite 500, Washington, D.C. 20005. Its new phone number will be (202) 289-1700. Other members of the AMA Federation planning to open offices in the building are the American Academy of Ophthalmology, the American Council of Otolaryngology, and the College of American Pathologists. The American Assn. for the Advancement of Science also will have an office in the new building.

Construction on the Vermont Avenue building began in May 1980. Last summer the AMA purchased another Washington office building at 929 E St., N.W., for investment purposes. The AMA will renovate the interior of this nine-story building and rent office space to commercial tenants after the current tenant's lease expires on May 31. The E Street building is in a growth area known as the Federal Triangle.

A SERIES OF REPORTS ON SCIENTIFIC SUBJECTS was a highlight of the Interim Meeting. In adopting the reports from the AMA's Council on Scientific Affairs, the House called for:

- An AMA leadership role in educating medical students and physicians on current knowledge of homosexuality, in encouraging the development of educational programs to acquaint homosexuals with diseases for which they are at risk, and in providing physicians with information about clinics and physicians willing to become involved with other providers to improve homosexuals' health care.
- Research in the development of new psychosocial models of depression, studies to identify more accurate diagnostic criteria for anxiety and depression so that more uniform prescribing may follow, and studies on the clinical course and morbidity of individuals with untreated anxiety and depression.
- Physicians to advise their patients that studies of the safety and efficacy of dimethyl sulfoxide (DMSO) are progressing and cautioned physicians not to displace conventional therapy.
- The AMA to advise the federal government that adequate genetic counseling must be incorporated into any prenatal screening program, to encourage specialty societies to enhance their efforts to train physicians in the newer techniques of antenatal diagnosis, and to advise Congress that the National Genetic Disease Act should be renewed and expanded.
- Use of estrogen during menopause only for responsive indications, in the smallest effective dose, and for the shortest period that satisfies therapeutic need.
- Support for continued studies of persons exposed, or allegedly exposed, to Agent Orange and its associated contaminant TCDD, and for physicians to be alerted through AMA publications to the signs of chloracne and possible signs and adverse effects of TCDD exposure.

FROM THE EXECUTIVE DIRECTOR'S OFFICE

160 St. Ronan Street, New Haven, Conn. 06511 Telephone 865-0587

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Scientific Activities

Richard J. Fiorentino
Coordinator
Special Services

COUNCIL MEETING

Wednesday, December 16, 1981
160 St. Ronan Street, New Haven, CT

Attendance

Present were: Drs. Canzonetti, Parrella, Doctor, Backhus, Mendillo, Sadowski, Hecklau, James, Hess, Friedberg, Van Syckle, Abbot, Petrie, Shenker, Freedman, Barrett, Ragusa, Kaess, McDonnell and Sonnen.

Also present: Mr. Norbeck, Mrs. Lindquist, Mr. Sweeney, Mr. Brunell, Mr. Fiorentino, Mr. Tomat (FCMA), Dr. Barton, Dr. Fabro and Dr. Callan.

Absent were: Drs. Whalen, Jr., Jameson, Rubinow, Anderson, Zlotsky, Orphanos, Beck, Seide, Concannon, Czarsty, Bobruff and Hayes.

Chairman's Comments

Guy W. Van Syckle, M.D., welcomed back the President, Andrew J. Canzonetti, M.D., who had missed the past Council meeting due to surgery.

Dr. Van Syckle also informed the Council and congratulated Jerome K. Freedman, M.D., upon his recent appointment as Chairman of the Continuing Medical Education Advisory Committee of the AMA Council on Medical Education.

The minutes of the October 15 meeting were distributed as an attachment to the Report to the Council to the House of Delegates on November 18 and approved along with the report.

Items Referred to the Council by the House of Delegates, November 18, 1981

a) Resolution on Legal Definition of Death
RESOLVED: That the CSMS Council appoint an Ad Hoc Thanatology Committee which will, with the Committee on Legislation, draft an appropriate bill for presentation to the next regular session of the Connecticut General Assembly, which will incorporate the following model statute.

"An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards."

It was VOTED to authorize the Chairman of the Council to nominate an Ad Hoc Committee on Thanatology. Dr. Van Syckle appointed the following members:

William A. Whalen, M.D., Willimantic, Chairman
Franklin Robinson, M.D., New Haven
Yolanta E. Meya, M.D., Willimantic
J. Alfred Fabro, M.D., Torrington (Advisor)

b) Resolution on Connecticut Medicine

Appointment of an Ad Hoc Committee to Evaluate "Connecticut Medicine" and to report back to the House at its Annual Meeting in April of 1982. The Speaker of the House of Delegates, Joseph S. Sadowski, M.D., charged with the responsibility of appointing the committee, asked the Council for any recommendations. Following the meeting, the Speaker appointed Drs. Stewart Petrie, Derby, Chairman; John Tobin, Darien; William Whalen, Willimantic; Martin Dinep, New Britain and Carl Conrad, Colchester.

Committee on Third Party Payments

a) Donn Barton, M.D., Chairman of the Committee on Third Party Payments, appeared before the Council to review the committee's document entitled "You and Your Health Insurance." Dr. Barton explained that the committee wished to have the document published and distributed to physicians' offices and other sources at a cost of approximately $4,000. It was VOTED to approve of the document in principle, and to charge the chairman with revising the copy and securing other similar type insurance brochures as a reference comparison and to include mention of dental coverage before resubmitting the request to the Council.

b) It was reaffirmed by the Council that a chairman of a committee should clear any committee positions taken that may be construed as CSMS policy with the Council before meeting with outside parties.

c) It was reaffirmed that any committee wishing to pay an honorarium to an invited guest should secure prior approval from the Council.

d) Dr. Barton reported to the Council that his committee had reviewed a study of one week's emergency room visits in Connecticut and that his committee was developing more material to demonstrate the inequities and extra cost to our health care system caused by hospital reimbursements to hospitals (but not physician office visits) for emergency room treatment. The Council will be kept informed on this activity.

Report of the President

President Canzonetti suggested the formation of a Personnel Committee to assist the Executive Director in establishing future remuneration policies for CSMS staff. It was VOTED to establish an Ad Hoc Personnel Committee comprised of the officers of the Society.

Report on the AMA Convention

Mr. Norbeck submitted a brief report on the AMA Convention and all members of the CSMS AMA delegation gave verbal reports to the Council on convention activities.

After discussion about the Initial Report and Preliminary Recommendations of the National Commission on Nursing, it was VOTED to form an Ad Hoc Committee on the National Commission on Nursing to study the reports available and address the problem areas mentioned.

In conjunction with the AMA report, Dr. Hess referred to an article on HMOs which appeared in a recent issue of the New York Times and which will be forwarded to members of the Council.

Cancer Coordinating Committee

a) It was VOTED to approve of a committee resolution which supports continuation of funding for followup studies by the Connecticut Tumor Registry concerning treatment, recurrences, second primary tumors, and survival of cancer patients.

b) The matter dealing with the publication of the "Followup of Cancer" booklet for physicians was tabled until more information can be obtained regarding the costs and text of the material.

c) It was VOTED to approve of the resolution entitled "Cancer Followup," the resolved portions of which are as follows:

RESOLVED: That the CSMS inform the Director of NCI that the Society believes that active follow up of every cancer patient is essential for adequate medical care for the patient, and that in Connecticut the effectiveness of the State Registry System depends on central recording and analysis of active follow-up information collected by physicians and hospitals, and be it further

RESOLVED: That the Society hereby requests the Director of NCI to use his influence to maintain the principle that active follow-up is an essential function for some central registries, and because it has the oldest continuously operating central population-based registry in the United States, this principle should continue to apply to the Connecticut Tumor Registry, regardless of exact levels of federal support that may be determined for any period.

Communication from Councilor from Fairfield County

In reply to a request from T. Peter Jameson, M.D., Councilor from the FCMA concerning expenditures for the formulation of a physician-owned insurance company and the public information program, Mrs. Lindquist submitted a detailed financial summary of all the expenditures for these activities for the years 1980-81. To date $201,680.83 has been expended for the physician-owned insurance company and $77,240.89 for the public information program.

1981 Semi-Annual Meeting of the House of Delegates

It was VOTED to receive the attendance report of councilors and county delegates at subject meeting as information.

Committee on Public Health

It was VOTED to approve of two resolutions submitted by the Committee on Public Health, the resolved portions of which are as follows:

Block Grant for Venereal Disease Program

RESOLVED: That the Connecticut State Medical Society vigorously support the continued provision of drugs and grants to municipalities for the control of Venereal Disease and the provision of support personnel to do epidemiologic follow-up in the State Department of Health Services.

Block Grant for Fluoridation Program

RESOLVED: That the Connecticut State Medical Society support grants to the small municipalities for fluoridation of water together with personnel in the State Department of Health Services to administer the program.

Life Members

The names of new life members were presented to the Council for information and are as follows:

Louis C. Acqua, East Hartford
Roy Allen, West Hartford
Francis D.T. Bowen, West Hartford
Halsey G. Bullen, Stamford
Walter L. Butterfield, Hartford
Ludmil A. Chotkowski, Kensington
Armanno W. Ciccarelli, Bristol
Anthony P. Cipriano, East Haven
Thomas Cottiero, Waterbury
Nasser D. David, West Hartford
S. Francis DiLorenzo, Waterbury
Peter V.C. Dingman, Waterbury
Dean H. Edson, Danbury
R. M. Fasanella, New Haven
Leo P. Giardi, Hartford
John W. Haine, Stamford
Charles H. Hamlin, Hartford
Thomas M. Healy, Manchester
Richmond C. Hubbard, Bethel

Life Members (continued)

Stuart L. Joslin, Fairfield
Edwin H. Kent, Greenwich
Louise G. Lovekin, Norwalk
John R. Lyddy, Stratford
Rocco S. Marino, New Haven
Henriette Marcus, Greenwich
Charles G. McKendree, Greenwich
George J. Molnar, Bridgeport
Felix R. Morris, Bridgeport
Andrew P. Owens, Bridgeport
John W. Patterson, Farmington
Charles H. Pitegoff, New Haven
Merrill B. Rubinow, Manchester
Samuel S. Sheiman, Bridgeport
Rebecca Z. Solomon, Hartford
Harry L. Trambert, Norwalk
Sophie C. Trent, Meriden
Victor G. Sonnen, Enfield
Vincent J. Turco, Hartford

Communication from Ct Psychiatric Association

It was VOTED to refer a communication from the subject association expressing concern about the extent of benefits for psychiatric and mental care provided by both private insurance companies and health maintenance organizations to the Committee on Mental Health for study and report back to the Council.

N.B: *The foregoing is a summary of the proceedings and actions of the Council on December 16, 1981. Detailed minutes of the meetings are on file at 160 St. Ronan Street, New Haven, for perusal by any interested member of the Society.*

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IN MEMORIAM

MILLEN, SAMUEL R., George Washington Medical School, 1938. Dr. Millen was a general practitioner in the New Haven area since 1940. During World War II he served as medical officer with the U.S. Army, attaining the rank of major, and was on the staffs of Yale-New Haven and St. Raphael's hospitals. Dr. Millen died October 18, 1981, at the age of 70.

PIERCE, JOHN A., Duke Medical School, 1955. Dr. Pierce was a cardiologist in the Hartford area since 1960. He was a member of the medical staff of Hartford Hospital, and was associated with the Hartford Cardiology Group and a director of the Hartford Heart Association. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Pierce died October 27, 1981, at the age of 54.

TUERK, BENJAMIN, JR., Long Island College of Medicine, 1948. Dr. Tuerk was a general practitioner in the Litchfield area since 1949. He was a member of the Litchfield County Medical Association and the Connecticut State Medical Society. Dr. Tuerk died November 7, 1981, at the age of 58.

WARD, KENNETH E., Harvard Medical School, 1944. Dr. Ward was a general practitioner in the Hartford area since 1945. He was medical director at Connecticut General Life Insurance Company and was a member of the Hartford County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Ward died November 27, 1981, at the age of 62.

CSMS Auxiliary Schedules Adolescent Stress Conference

March 31, 1982

The Auxiliary to the Connecticut State Medical Society is sponsoring a program on Adolescent Stress on March 31st, 1982 at the Hotel Sonesta, Hartford. This is a new venture for the Auxiliary and is its contribution to the 1982 "Shape Up for Life" campaign, which is focusing on Mental Health.

The program has been planned to appeal to a varied audience. Physicians, psychologists, social workers, teachers and parents are all invited. Keynote speaker at the all day conference is Joseph Horton, PhD., a clinical psychologist with Psychological Associates. His address is entitled "Normal Adolescence—Variations on a Theme." A question and answer period will follow this session.

The afternoon program is divided into four workshops, dealing with: (a) Depression in Adolescents, by Edward Zenker M.D., Hall-Brooke Hospital; (b) Adolescent Eating Disorders, by Alfred Herzog M.D., Dept. of Psychiatry, Hartford Hospital; (c) Trauma of Divorce, by Bland Maloney, Hartford Hospital; and (d) Alcohol and Drugs, by Peter Zimmer of New Directions, Enfield.

The cost of the program is $15.00, and includes lunch. CME credits have been applied for through AAFP. Reservations can be made through Mrs. Joseph Czarsty, 18 Hillside Avenue, Oakville, CT 06779.

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PHYSICIAN PLACEMENT SERVICE

The Society maintains the Physician Placement Service as a service to the medical profession in Connecticut. Opportunities for physicians to locate in Connecticut will be published as space permits and will be distributed to physicians making inquiries of such opportunities. Information should be sent to 160 St. Ronan St., New Haven, CT 06511 (203-865-6822).

Physicians wishing to establish practice in Connecticut are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.

OPPORTUNITIES FOR PRACTICE

(If no name is listed, contact the Physician Placement Service for more details.)

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MENTAL HEALTH. Full-time physician needed to serve as Assistant Superintendent of a 72-bed Psychiatric facility specializing in the treatment of alcoholic and drug-dependent patients. Must have experience and training in the substance abuse field. Board certification in psychiatry or internal medicine preferred; will consider others. Responsibilities include management and direction of clinical services, training and research. Excellent benefits, university faculty appointment, and publication assistance. Salary to $54,000. Contact Search Committee, c/o Mr. Roger Howard, Blue Hills Hospital, 51 Coventry Street, Hartford, CT 06112. (203) 566-4405.

INTERNAL MEDICINE

Internist with subspecialty of Infectious Diseases—Solo Practice. Central Connecticut suburban setting in rapidly expanding community. UConn and Yale Medical Centers easily accessible. Excellent community hospital with a wide range of ancillary services. Medical Staff of Family/General Practitioners and multiple specialties. Financial assistance provided. Write: Director, Bradley Memorial Hospital, Meriden Ave., Southington, CT 06489 or call 203-621-3661 Ext. 331.

ORTHOPEDIST

Orthopedist—Solo Practice. Central Connecticut suburban setting in rapidly expanding community. UConn and Yale Medical Centers easily accessible. Excellent community hospital with a wide range of ancillary services. Medical Staff of Family/General Practitioners and multiple specialties. Financial assistance provided. Write: Director, Bradley Memorial Hospital, Meriden Ave., Southington, CT 06489 or call 203-621-3661 Ext. 331.

OPPORTUNITIES FOR PRACTICE

(If no name is listed, contact the Physician Placement Service for more details.)

PEDIATRICS

Pediatrician, board certified or eligible to join board certified Pediatrician in Fairfield. Position presently available. Subspecialty desirable. Send curriculum vitae to CSMS, PED/MAL.

PSYCHIATRY

Urban state hospital in Hartford has need for part-time and full-time Psychiatrists. 35 hour work week. Affiliated with UConn School of Medicine. Excellent civil service benefits. Excellent school and cultural activities located nearby. Salary to $43,000. Contact Mr. Roger M. Howard, Administrative Director, Blue Hills Hospital, 51 Coventry Street, Hartford, CT 06112. (203) 566-4405.

RADIOLOGY

Services of a part-time Radiologist needed in well equipped office. Please reply to: Administrator, Box 37, Sharon, CT or call (203) 364-5093.

PHYSICIANS WISHING TO LOCATE IN CONNECTICUT

ALLERGY

June '82. Age: 31. Nat'l bds.; AB elig. MD, UCLA School of Medicine; Int. and Res., University of Oregon Health Sciences Ctr; Fellowship, National Jewish Hospital/National Asthma Center, Denver, CO. Prefers solo, group or assoc. practice in a medium to large community. Write: Linden David Ho, M.D., 3800 E. Colfax Avenue, Denver, CO 80206.

ANESTHESIOLOGY

July '82. Age: 34. FLEX. AB elig. MD, China Medical School, Taiwan; Int., St. Elizabeth's Hospital, Chicago, IL; Res., Sisters of Charity, Buffalo, NY (surgery) and Buffalo General, Buffalo, NY (Anesthesiology). Prefers group practice in medium to large community. Write: David C. Lung, M.D., 273 Sunrise Blvd., Williamsville, NY 14221.

FAMILY MEDICINE

July '82. Age: 32, FLEX. AB elig. MD, University of Bologna, Italy; Int. and Res., Brookhaven Memorial Hospital, New York. Solo or group practice in small to medium size community. Write: Eugene M. Lipiva, M.D., 527 High Street, Port Jefferson, NY 11777.

June '82. Age: 31. Presently in practice. FLEX. AB cert. MD, University of the Saar, W. Germany. Res., Community Hospital at Glen Cove, NY. Prefers practice without Obstetrics in northwestern Connecticut—group or assoc. in small to medium size community. Write CSMS, HDS/FP.

Sept. '82. Licensed in Connecticut. Age: 34. AB cert. MD, Univ. of Bologna; Int. and Res., Glen Cove Community Hosp.—SUNY. Prefers solo practice in area that needs Family Practitioner, but would consider associate in Newtown, CT area. Contact: John E. DeLoria, M.D., Box 915 Aviano AB, APO, NY 09293.

INTERNAL MEDICINE

CARDIOLOGY. Immediately. Age: 31. AB elig. MD, Medical College University Baroda, India. Int. and Res., Kingsbrook Jewish Medical Center, Brooklyn. Fellowship, Norwalk Hospital. Group, associate or institutional practice in noninvasive and invasive cardiology. Write: Arvind M. Mehta, M.D., 672 General Scott Rd., King of Prussia, PA 19406.

July '82. Age: 32. Nat'l Bds. AB elig. MD, University of Connecticut School of Medicine; Int. and Res., The University of Rochester Associated Hospitals Program in Internal Medicine. Group or associate practice in medium or large community. Write: Arthur G. King, M.D., 505 Richardson Rd., Rochester, NY 14623.

July '82. Age: 29. Presently in practice. Nat'l bds. AB elig. (certifying exam pending). MD, Emory University, Atlanta, GA; Int. and Res., St. Vincent's Hospital and Medical Center of NY. Group, associate or institutional practice preferred. Write: Lee C. Abel, M.D., 100 Risley Rd., Chestnut Hill, MA 02167.

Nov. '81. Age: 52. Licensed in Connecticut. AB elig. MD, Albany Medical College; Res., Int. and Fellowship, Albany Medical Center Hospital. Group, associate, institutional or industrial practice. Proficient in electrocardiograph and can interpret chest x-rays. Write: Arthur J. Boyko, M.D., 97 Euclid Ave., Albany, NY 12203.

Infectious Disease. July '82. Age: 31. Nat'l bds. AB cert. MD, Albany Medical College; Int., Cornell, The New York College; Res., Yale New Haven Hospital; Fellowship, Nassau County Medical Center and Beth Israel Medical Center. Interest in consultive infectious disease in a teaching institution or general internal medicine and/or group practice. Write: Alan Lin-Greenberg, M.D., 353 East 17th Street, New York, NY 10003.

July '82. Age: 28. Nat'l bds. AB cert. MD, Boston Univ.; Int. Res. and Fellowship, The Hospital of St. Raphael. Objective is to practice high quality Internal Medicine and Endocrinology in a group practice, solo practice, partnership or Health Maintenance Organization. Write: Thomas Gartman, M.D., 42 Manila Ave., Woodbridge CT 06525.

CARDIOLOGY. Feb. '82. Age: 33. AB elig. MD, Mysore Medical College, Mysore, India; Int., Hospital for Joint Diseases & Medical Center, NY; Res., Wayne State Univ.; Fellowship, Downstate Medical Center. Assoc., group or institutional in small to medium size community preferred. Non-invasive cardiology including echo, stress testing, Swan Ganz, pacemaker, etc., preferred. Write: Nandakumar S. Iyengar, M.D., 142 Hawkins Ave., Parsippany, NJ 07054.

HEMOTOLOGY. Aug. '82. Age: 34. Nat'l bds. MD, McGill Univ.; Int., Jewish General Hospital, Montreal; Res. and Fellowship, Royal Victoria Hospital, Montreal. Prefers group or assoc. type practice in medium to large size community. Has had four years experience in General Practice. Write: Marc L. Fishman, M.D., 3600 Parc Ave., #903, Montreal, P.Q., Canada H2X3R2.

Available immediately. Connecticut license. Presently in Practice. Age: 59. Nat'l bds. AB elig. MD, University of Rome; Int. Italian Hospital and Deaconess Hospital, Cleveland, OH; Fellowship, University of Maryland; Instructor of Medicine, University of Maryland; teaching positions at the University of Michigan and Louisville. Oncology/Hematology preferred or Internal Medicine. Would accept part time job or relocation if time to phase out present practice allowed. Write: CSMS, IM—GR (to be forwarded).

July '82. Age: 29. Nat'l bds.; AB elig.; MD, New York University; Int. and Res., Long Island Jewish-Hillside Medical Center; Fellowship, Georgetown University Hospital. Prefers group or assoc. practice in a medium or large community. Write: Richard A. Balter, M.D., Georgetown University Hospital, Division of General Internal Medicine, 3800 Reservoir Rd., NW, Washington, DC 20007.

CARDIOLOGIST. July '82. Age: 30. AB elig.; MD, Seth G.S. Medical College, Bombay, India; Int., Grant Hospital of Chicago, IL; Res. and Fellowship, Hackensack Medical Center, Hackensack, NJ. Will consider all types of practice. Write: Harish N. Nagarsheth, M.D., 12 Marlboro Court, Maywood, NJ 07607.

CARDIOLOGY. July '82. Age: 29. Nat'l bds.; AB cert. MD, NY Medical College; Int., Res. and Fellowship, Long Island Jewish Hospital, New York. Interested in a practice opportunity that focuses primarily on cardiology—either invasive or non-invasive. Fully trained in right and left heart catheterization, M-Mode and 2-D echocardiograph, nuclear studies, stress testing and monitoring. Write: Ronald H. Weissman, M.D., 300 East 74 Street, New York, NY 10021.

CARDIOLOGY. July '82. Age: 32. Licensed in Connecticut. FLEX. AB elig. MD, Govt. Medical College, Patinla (India); Int., Huron Road Hospital, Cleveland, OH; Res., St. Lukes Hospital, St. Louis, MO; Fellowship, Hospital of St. Raphael. Prefers medium size, solo or assoc. type practice. Emergency room and House Physician experience. Write: Kabul S. Garg, M.D., 129 York St., Apt. 6M, New Haven, CT 06511.

July '82. Age 29. Licensed in Connecticut. Nat'l bds. MD, New York Medical College, Valhall, NY; Int., Harlem Hospital Center, NYC; Res., Waterbury Hospital. Formerly medical officer, U.S. Public Health Service (Indian Health Service) and Emergency Physician, St. Agnes Hospital, White Plains, NY. Would prefer solo, group or assoc. type practice in a small to medium size practice. Write: Alfred M. Baum, M.D., RFD #3, Putnam Lake Rd., Brewster, NY 10509.

ENDOCRINOLOGY. July '82. Age: 32. Licensed in Connecticut. Nat'l bds.; AB cert. MD, University of Brussels, Belgium; Int. and Res., The Hospital of St. Raphael; Fellowship, Sloan-Kettering Memorial Hospital, New York. Prefers solo, group or assoc. type practice. Write: CSMS IM/JS.

July '82. Age: 32. Nat'l bds.; AB elig. MD, University of Maryland Medical School; Int. and Res., Mercy Hospital, Baltimore, MD. Prefers solo or group practice in a medium size community. Write: Scott J. Henderson, M.D., 709 Brookwood Rd., Baltimore, MD 21229.

NEUROLOGY

July '82. Age: 32. Presently in practice. Nat'l bds. AB elig. MD, Hahnemann Medical College: Int., Brookdale Medical Center; Res., Mount Sinai Medical Center; Fellowship, Stony Brook Medical School. Solo, group, assoc. or institutional practice in a medium to large community. Board eligible in neurology and radiology. Write: CSMS, NEUR/GG.

OPHTHALMOLOGY

Immediately. Presently in practice. Age: 31. Nat'l bds. AB, cert., MD, University of Alabama; Int., USPHS, San Francisco, CA; Res., University of South Florida. Seeks to purchase retiring practice or associate with Ophthalmologist in Southern Connecticut Area near NYC. Will also consider rental space in busy medical building. Contact: Steven R. David, M.D., (813) 441-3331 or (813) 796-7949.

ORTHOPEDICS

Immediate. Age: 51. Presently in practice. FLEX. AB cert. MD, University of Amsterdam; Int., Seattle, Washington; Res., U.S. Navy; Fellowship, Duke Medical Center. Solo, group or assoc. practice in small to large size community. Experience in hip and lunbar spine surgery. Write: CSMS, JGD/ORTHO.

ORTHOPEDIC SURGERY. Feb. '82. Connecticut License. Presently in practice. Age: 31. Nat'l bds; AB elig; MD, University of Connecticut; Int. and Res., Medical College of Virginia. Prefers solo, group or assoc. type practice. Write: Gary W. Androphy, M.D., P.O. Box 533, Gurnee, IL 60031.

GENERAL SURGERY

Jan. '82. Age: 37. Presently in practice. Nat'l bds. AB cert. MD, New Jersey College of Medicine; Int. and Res., St. Vincent's Hospital and Medical Center. Prefers group or assoc. practice. Write CSMS, AJM/SUR.

UROLOGY

July '82. Age: 29. Nat'l bds. AB elig. MD, Downstate Medical Center; Int. and Res., Brookdale Hospital. Prefers solo, group or assoc. practice in medium to large size community. Write: Frederick Greenstein, M.D., 732 East 91 St., Brooklyn, NY 11236.

Primary Dysmenorrhea: Pathogenesis and Therapy

JOHN W. KULIG, M.D.

"If the flow of blood is attended with difficulty, we call this disorder... dysmenorrhea... it is accompanied with an infinity of other disorders . . . which are pains in the loins, sense of weight in the lower belly or perineum... symptoms of hysteria, dyspepsia, anorexia... paleness of the lips, general weakness... palpitations, syncope.

"We are not to neglect the suppressed evacuation... The means most conducive are running, dancing, riding ... warm fomentations and cataplasms to the lower belly, electricity directed to the sexual organs, laxative lavements, leeches to the perineum or the vulva, to the number of 10 or 15 every month... and above all, coition."[1]

Introduction

The past decade has witnessed an explosion in knowledge about the pathogenesis of dysmenorrhea which has led to remarkable advances in rational therapy for this most common of all gynecologic disorders. Dysmenorrhea is estimated to be the single greatest cause of lost working hours and school days among young women.[2] Primary dysmenorrhea refers to painful menstruation in the absence of significant pelvic pathology. Symptoms usually begin with the onset of ovulatory cycles approximately six to twelve months after menarche.[3] Sharp, spasmodic, suprapubic abdominal pain with radiation to the lower back and anterior thighs may begin a few hours prior to onset of menses and persist for a few hours to three days.[3] Pain may be accompanied by gastrointestinal and vascular symptoms including nausea, vomiting, diarrhea, headache, irritability, fatigue, and syncope.[4] Secondary dysmenorrhea refers to that associated with pelvic pathology. Onset of dysmenorrhea at the time of menarche suggests anatomic obstruction to uterine or vaginal outflow. More commonly, onset occurs later than age 20 and is characterized by dull, diffuse pelvic pain secondary to endometriosis, pelvic inflammatory disease, leiomyomata, endometrial polyps, or adenomyosis.[3] Secondary dysmenorrhea may also be due to an intrauterine contraceptive device. Chronicity of the pain throughout the menstrual cycle or lateralization of the pain strongly suggests a secondary cause. Diagnostic laparoscopy should be considered, especially in the presence of an abnormal pelvic examination.[4]

Hippocrates initially ascribed painful menstruation to cervical obstruction with stagnation of menstrual blood.[3] Various etiologies subsequently considered have included uterine hypoplasia, endometrial casts, uteroflexion, cervical canal stenosis, allergic states, poor posture and numerous psychogenic factors,[5] including rejection of the feminine role and conflicts about sexuality.[6] Historically, dysmenorrhea has also been associated with epilepsy, hysteria, and mania.[6]

Various modes of therapy have been tried throughout the ages, such as hot cupping glasses applied to the breasts and numerous medications including opium, cannabis, nitroglycerine, herbal tonics[7] and vitamins.[5] Surgical approaches to this disorder have included cervical dilatation with the subsequent risk of incompetence of the cervix, dilatation and curettage, presacral neurectomy, and hysterectomy. From 1865 to 1906, over 150,000 women underwent surgical removal of normal ovaries for this disorder.[7] Less drastic approaches to therapy have included the Victorian recommendations for seclusion at home, rest, and avoidance of needlework, piano playing, singing, and bathing.[6]

Pathophysiology

In 1957, Pickles first described increased levels of "menstrual stimulant" in the menstrual fluid of patients with primary dysmenorrhea. This substance was subsequently proven to be prostaglandin E_2 and prostaglandin F_2 alpha (PGE_2 and PGF_{2a}). Prostaglandin synthesis in the uterus is thought to be regulated by progesterone. Anovulatory cycles are painless since progesterone does not rise in the luteal phase and higher prostaglandin levels have been noted in the

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menstrual fluid of ovulatory as compared with anovulatory cycles.[2] Progesterone drops rapidly late in an ovulatory cycle if pregnancy has not occurred. This is followed by a dramatic increase in PGF_{2a} which leads to powerful uterine contractions, arteriolar constriction, ischemia, and sloughing of the endometrium.[3]

The pain of dysmenorrhea has been characterized as "laborlike."[2] Women with primary dysmenorrhea have an excess of myometrial activity during menstruation. This may consist of either increased basal uterine tone or high amplitude contractions.[4] Prostaglandins, which are thought to mediate myometrial activity, are synthesized locally in the endometrium under the control of the prostaglandin synthetase enzyme system in the microsomes. Prostaglandins are synthesized immediately prior to release and are not stored in tissues.[2] Due to rapid metabolism, prostaglandin blood levels correlate poorly with symptoms.[3] Exogenous administration of PGF_{2a} during menses will significantly increase symptoms in a patient with dysmenorrhea, and prostaglandin production in the secretory endometrium has been demonstrated to be up to seven times greater in women with dysmenorrhea as compared with controls.[2] Prostaglandins may also sensitize nerve endings and stimulate smooth muscle contractions in the stomach, intestines, and blood vessels, thus accounting for the associated symptoms of nausea, vomiting, diarrhea, irritability, and headache.[8]

Nulliparous patients are most likely to be affected by primary dysmenorrhea which commonly resolves after the first pregnancy. Structural changes in the uterus which result in a net increase in vascular supply during pregnancy persist postpartum and may be related to relief of pain.[9]

Diagnosis and Therapy

Diagnosis may be made by a typical history and normal pelvic examination. The patient should be reassured of the absence of pelvic pathology and the likelihood of normal fertility. Failure to respond to a therapeutic trial with either a combined oral contraceptive pill or a prostaglandin synthetase inhibitor should lead to a renewed search for pelvic pathology, including possible laparoscopy.[4]

A low-dose combined oral contraceptive pill is effective in approximately 95% of cases of primary dysmenorrhea by suppressing ovulation and growth of the endometrium where prostaglandin production takes place.[8] Since the combined pill requires daily medication and is associated with frequent side effects in the first few cycles of use, it should be prescribed only for young women who have chosen this as a method of contraception. Use of supplemental drug therapy is rarely indicated since suppression of ovulation will abolish symptoms in the vast majority of cases.

Although Palmer first noted in 1895 that antirheumatic drugs were effective in the relief of menstrual pain,[7] it was not until the last decade that clinical research demonstrated a dramatic response to therapy with non-steroidal anti-inflammatory agents which act as inhibitors of prostaglandin synthetase. This class of drug provides several advantages which make it ideal for use in dysmenorrhea. Specific therapy is provided with direct action upon the pathogenesis of the disorder. Use is limited to symptomatic periods, onset of symptomatic relief is prompt, and therapy is highly successful without undue side effects.[9] Prostaglandin synthetase inhibitors have been shown to diminish endometrial prostaglandin synthesis and thereby reduce uterine resting pressure as well as the force and frequency of contractions as measured by uterine manometry.[3]

Dosage and frequency of administration of the most commonly employed agents in this class are outlined in Table I. Each of these agents is likely to result in a dramatic response in approximately 70 - 80% of the women treated.[3] Aspirin has recently been reported to be an effective agent in some adolescents with primary dysmenorrhea and has been advocated as an alternative to other prostaglandin synthetase inhibitors, since the risk of side effects in this age group has not been well studied.[10] Rosenwaks et al, in contrast, have found aspirin to be only slightly better than placebo in comparison with naproxen.[11] Aspirin is a weak inhibitor of prostaglandin synthesis as compared with the agents listed in Table I. Indomethacin has been studied and found to be effective,[12] but widespread use is limited due to an unacceptable incidence of potentially serious adverse effects. In addition, ibuprofen has been shown to be more effective than indomethacin in a comparative study.[12]

Table 1
USE OF PROSTAGLANDIN SYNTHETASE INHIBITORS IN DYSMENORRHEA

Drug	*Dosage and frequency*
Ibuprofen (Motrin)	400 mg qid
Mefenamic acid (Ponstel)	500 mg initially, then 250 mg tid-qid
Naproxen (Naprosyn)	250 mg bid
Naproxen sodium (Anaprox)	550 mg initially, then 275 mg tid-qid

Comparative studies among ibuprofen, naproxen, and mefenamic acid have not been reported, and cost of therapy is approximately equivalent. These agents may be administered with impending menses or at the onset of bleeding and should be continued for one to two days as needed. Early treatment in order to prevent build-up of prostaglandins is unnecessary since metabolism is very rapid and use prior to menses might result in exposure to these agents early in pregnancy. This same class of drug has been employed in achieving pharmacologic closure of the patent ductus arteriosus in the preterm infant; however, effects on the fetus are unknown.

Prostaglandin synthetase inhibitors are contraindicated in women with aspirin hypersensitivity, and should be used cautiously in women with a history of peptic ulcer disease. Side effects are infrequent but may include gastrointestinal symptoms, headache, dizziness, tinnitus, or rash. A potential beneficial side effect may be reduction in menstrual blood loss in some women.[2]

Summary

Primary dysmenorrhea, the most common of all gynecologic disorders, is due to excessive endometrial production of prostaglandin during the progestational phase of an ovulatory cycle. Diagnosis is made by a characteristic history in conjunction with a normal pelvic examination. Dramatic relief of symptoms may be achieved with ovulation suppression or short-term use of prostaglandin synthetase inhibitors. Failure to respond to a therapeutic trial should result in further search for pelvic pathology.

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Traumatic Rupture of the Diaphragm: Waterbury Hospital Health Center, 1960 Through 1979

CHIH JUNG SHIEH, M.D., EDWARD DUNN, M.D. AND

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ABSTRACT—Experience in twelve patients with traumatic rupture of the diaphragm are reviewed at the Waterbury Hospital Health Center from 1960 through 1979. The mechanisms of injury are discussed. Eight patients were younger than 30 years. Injuries followed blunt or penetrating trauma. All patients had associated injuries, either intrathoracic, intra-abdominal, or musculoskeletal. Only four patients had a correct preoperative diagnosis. The dome and the posterolateral portion of the left diaphragm were most frequently injured. The timing of operation and the optimal operative approach are discussed in detail. Seven patients had postoperative complications with prolonged hospitalizations. Two patients required resuture of the diaphragm due to disruption. All patients recovered. No deaths are reported in this series.

Sennertus, in 1541, documented the earliest case of abdominal visceral herniation through a ruptured diaphragm in an autopsy case. Ambroise Pare, in 1579, on a post-mortem examination found a herniation of the stomach through the diaphragm. Bowditch (1853) was the first to present criteria for diagnosing rupture of the diaphragm.

Rupture of the diaphragm usually results from major trauma to the abdomen or chest. Diagnosis is frequently

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not made when the patient is first seen. The patient can be stable for several months or years, then the rupture can suddenly enlarge, causing respiratory failure or strangulation of the herniated viscus. Although once thought to be uncommon, it is becoming more frequent because of the increase in high speed driving. Multiple organ injuries are most likely to be associated with rupture of the diaphragm.

The purpose of this paper is to review cases of rupture of the diaphragm seen in early and delayed phases in relation to the episode of trauma, and to evaluate the clinical features and diagnostic characteristics, associated injuries and operative management of the patient.

Clinical Material

There were twelve cases of diaphragmatic rupture operated upon at Waterbury Hospital Health Center from 1960 to 1979. There were eight men and four women. Their ages ranged from five years to 62 years with an average of 30 years. Mode of the injury included car accidents in eight patients, a gunshot wound in one patient, a stab wound in one patient, and a disruption following esophageal surgery in one patient. One patient had no documented injury.

The patients were seen from two hours to 16 months after injury. Seven of the twelve patients were seen in the Emergency Room within 24 hours of injury but the diaphragmatic rupture was not recognized until exploratory laparotomy was performed. One patient was referred 16 months after a "superficial" stab wound in the left chest, having complaints of nausea, vomiting, and left upper quadrant abdominal pain. One patient was admitted with complaints of burning pain in the upper abdomen and vomiting three months after esophageal repair for stricture. One patient had delayed repair of ruptured diaphragm two weeks after injury, because of associated severe cerebral contusion and pneumonia. One patient had thoracentesis for presumed pneumothorax and gastric juice was drained from the chest tube two days after the injury. The last patient had no documented history of injury and presented with signs and symptoms of obstructed paraesophageal hernia for four days.

Clinical signs and symptoms are related to non-specific chest or abdominal complaints. A triad of physical signs were mentioned by Hill[1] including:

1) Scaphoid abdomen,
2) Mediastinal shift, and
3) Bowel sounds present over the chest

However, in our series only two patients showed dullness of the chest. No patient had either mediastinal shift, bowel sounds present over the chest, or scaphoid abdomen after reviewing the admission record.

The chest X-ray was the most valuable tool in diagnosis of ruptured diaphragm (Table I). However, in our series most patients showed non-specific changes such as increased density or haziness in the diaphragm or elevation of the diaphragm (Figure 1). Serial chest X-rays are very important in diagnosing difficult cases. One patient had a nasogastric tube inserted and the tube was visualized above the expected level of the hemidiaphragm on the chest X-ray. A Gastrograffin study was done on one patient (Figure 2) and confirmed the presence of the stomach within the left chest. A barium enema was done on one patient (Figure 3) which revealed herniation of the splenic flexure of the colon through the left hemidiaphragm. A chest tube was inserted in a patient with a "pneumothorax," which was in reality a massively dilated herniated stomach which was punctured, and drained of gastric content. In this way, the diagnosis of ruptured diaphragm was made.

Table I

ABNORMAL X-RAY FINDINGS*

Increased density in the diaphragm	7
Elevation of the diaphragm	4
Herniated viscus in chest	2
Hemothorax	1
Pneumothorax	1

*Some chest x-rays have more than two findings.

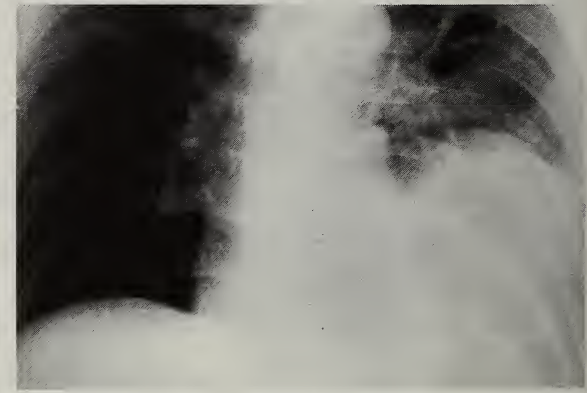

Figure 1

Elevation of the diaphragm in a patient with rupture of the left diaphragm.

Ruptured diaphragm is rarely the only injury. In our series all patients had associated injuries (Table II). The most common associated injury was intra-abdominal. Of six patients with herniated colons, there was no perforation or gangrene. However, two of four herniated stomachs had gangrenous changes and required segmental resection or partial gastrectomy.

Operation was usually undertaken as soon as the diagnosis was made and the patient's general condition had no contraindication for surgery. The interval between injury and recognition is listed in Table III. Abdominal exploration was done in seven patients in which the interval between injury and surgery was within 24 hours. Only one of the seven patients required extended thoracotomy due to right-sided injury of the diaphragm. The five patients in which the time of operation was delayed for more than 24 hours, required thoracotomy.

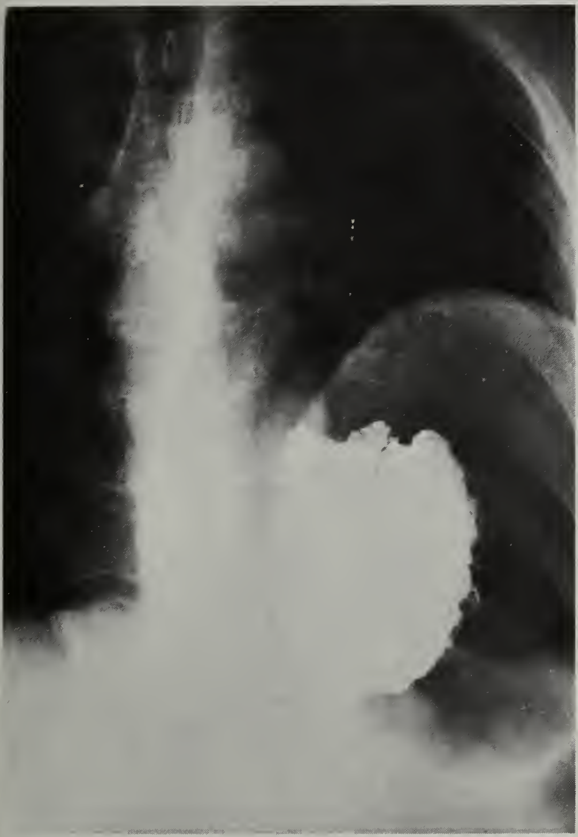

Figure 2

The Gastrograffin study confirmed the presence of the stomach within the left chest.

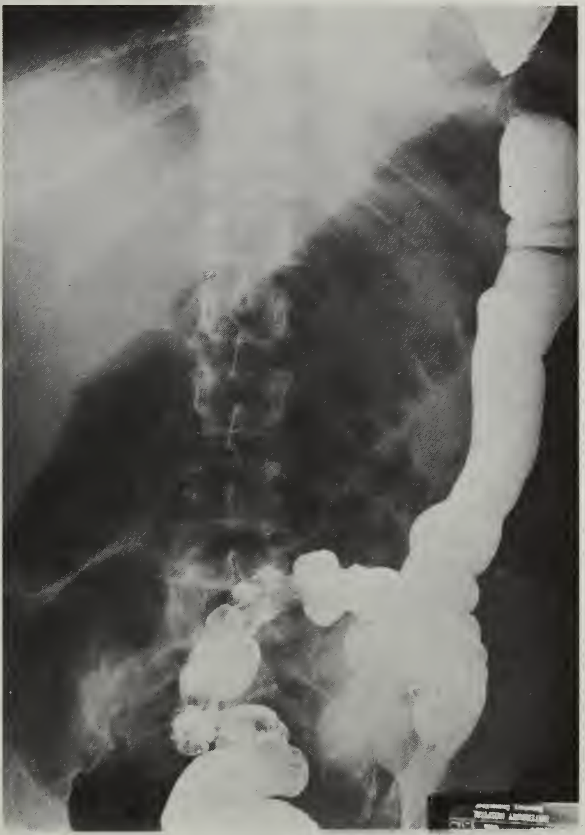

Figure 3

A barium enema revealed herniation of the splenic flexure of the colon through the left hemidiaphragm.

Table II
ASSOCIATED INJURIES

I. Intra-abdominal injuries	
Herniation of viscus:	
Colon	6
Stomach	4
Omentum	4
Small bowel	1
Splenic Injury	5
Kidney contusion	4
Rectal avulsion	2
Hepatic laceration	2
Pancreatic contusion	1
Urethral injury	1
II. Intrathoracic Injuries	
Lung contusion	2
Hemothorax	1
Pneumothorax	1
III. Musculoskeletal Injuries	
Lower extremity fracture	6
Pelvic fracture	4
Rib fracture	3
Lumbar spine contusion	1

The dome and posterolateral portion of the left diaphragm were most frequently injured. This occured in eleven patients in our series.

Additional surgical procedures, in addition to primary repair of the ruptured diaphragm, are listed in Table IV.

Table III
INTERVAL BETWEEN INJURY AND RECOGNITION

Delay	*Numbers*
<24 hours	7
2 days	1
4 days	1
2 weeks	1
3 months	1
16 months	1
TOTAL	12

Table IV
SURGICAL PROCEDURES*

Primary repair of the diaphragm	12
Splenectomy	5
Transverse colostomy	2
Resection of stomach	2
Omentectomy	1
Cystostomy and urethal splint	1

*Excluding repair for musculoskeletal injury.

All patients had primary approximation of the lacerated diaphragm. Eight patients had two layer imbrication sutures without disruption after repair. Two of the four patients with single layer closure had disruption and required reexploration and further repair. One underwent two layer repair and one underwent a Marlex prosthesis for the defect.

Results

There were no postoperative deaths. The average duration of hospitalization was 42.0 days. This was biased by associated injury. Four patients were discharged in about two weeks. One patient required a four months hospitalization because of the development of pneumonia and subdural hygroma and required further surgical procedures. Most of the prolonged hospitalizations were due to treatment of orthopaedic problems. The number of postoperative complications was high (Table V) in our series. Most complications were due to diaphragmatic trauma per se and minor cases were due to associated injuries. Follow up showed all patients recovered from repair of the lacerated diaphragm by the time they were discharged. There was no recurrence in the follow-up period.

Table V

POSTOPERATIVE COMPLICATIONS:* 7(58.3%)

Acute respiratory distress syndrome	2
Reruptured diaphragm	2
Small bowel obstruction	2
Pneumonia	1
Pneumothorax	1
Pancreatitis	1
Stress ulcer	1
Sepsis	1
Subdural hygroma	1
Thrombophlebitis	1

*Some patients have two or more complications.

Discussion

Most of the diaphragmatic ruptures followed blunt trauma. The incidence of diaphragmatic laceration from blunt or penetrating trauma is about 4.5% according to Epstein[2] and Rodkey.[3] In our series, two-thirds of the injuries followed blunt trauma. Young people were more prone to these injuries. Because of the elasticity of the chest cage, children are rarely subject to diaphragmatic rupture. One 5 year old child had rupture of the diaphragm from a direct injury following counterincision during repair of a strictured esophagus.

Several mechanisms for ruptured diaphragm have been proposed. Desforges[4] and Magee[5] suggested that the diaphragm was like a wet piece of paper stretched over a hoop. With distortion by force applied in the anteroposterior or lateral direction, the friable drumhead ruptured. Probert[6] believed the laceration happens during respiratory effort when the diaphragm is fixed by a crushing force. According to Archimedes' principle, force applied to the anterior abdomen and the flank are distributed equally in all directions. This force is also applied perpendicularly to all points on the wall of the intra-abdominal cavity. The diaphragm sustains the least resistance and ruptures. Andrus[7] felt this was the most attractive explanation for most left-sided ruptures. Marchand[8] pointed out that the average intraperitoneal pressure varies from +2 to +10 cm of water and intrapleural pressure varies from −5 cm of water during expiration to −10 cm of water during inspirations. The pleuroperitoneal pressure gradient varies between 7 and 20 cm of water and, with maximal inspiratory effort, may exceed 100 cm of water. This greater pressure gradient explains the herniation of the abdominal viscera into the chest.

In the reviewed series, including our own, rupture of the left diaphragm occurred in about 95% of the injuries. Because of buffer protection by the liver, rupture of the right diaphragm rarely occurs. When it does occur, the liver is invariably injured as well.

The posterolateral area of the left diaphragm was the most frequently injured site in our series. Hood[9] pointed out that the potential weakness of the embryological development was correlated to the site of rupture. Magee[5] also described failure of development of the pleuroperitoneal folds, which caused a gap between the costal and vertebral attachment on the left side.

Carter[10] proposed three phases of traumatic diaphragmatic hernia in 1951. Stage 1 is the immediate or traumatic phase. The diagnosis is made immediately following the traumatic incident. The patients usually present with cardiorespiratory distress or shock. At this phase the diaphragmatic injury may be masked by signs of intrathoracic or intra-abdominal injury. Stage 2 is the interval or latent phase. This occurs days or months after the original injury. The patient presents with postprandial fullness or mild dyspnea. The patient may be asymptomatic or there may be mild nonspecific symptoms secondary to partial visceral protrusion without obstruction or strangulation. A serial follow up chest X-ray may reveal the ruptured diaphragm. Stage 3 is the phase of obstruction or strangulation. The patient presents with acute intestinal obstruction after recovery from the initial trauma. This can be complicated by perforation or gangrene of the herniated viscus. Because it is easy to confuse Stage 2 and Stage 3 due to vague symptoms and signs, we prefer to use Hood's classification[9] of immediate and delayed categories. Retrospectively this classification is more useful for management of the surgical approach in our series. Seven patients had recognized injuries in the immediate phase within 24 hours of trauma. They all underwent exploration via an abdominal approach. Five patients had recognized injuries more than 24 hours after trauma (from 2 days to 16 months). They all underwent thoracotomy to repair the ruptured diaphragm.

Physical examination still remains difficult in diagnosing ruptured diaphragm if the diagnosis is not highly suspected. Bowditch in 1853 first published five criteria in physical diagnosis of the ruptured diaphragm: (1) immobility of the left chest; (2) displacement of cardiac dullness to the right; (3) absence of breath sounds over the left chest; (4) audible bowel sounds over the left chest; and (5) tympany to percussion over the left chest. In our series, restrospectively, most diagnoses were probably missed because of shock, unstable cardiac or pulmonary status, and associated intra-abdominal or musculoskeletal injuries and lack of suspicion.

As mentioned, a chest X-ray is most valuable to confirm the suspicion of a ruptured diaphragm. In the acute immediate phase, the chest X-ray usually shows "elevation of the diaphragm," "haziness of the diaphragmatic contour," "increased density over the base of the left lung," or "pleural effusion." In the delayed phase the chest X-ray may show "herniation of the viscus." Serial follow-up chest X-rays are important to establish the diagnosis after the patient recovers from the initial injury. Insertion of a nasogastric tube in the acutely injured patient may help the diagnosis if the tube is visualized above the diaphragm. Gastrograffin study by mouth or nasogastric tube may confirm the presence of the stomach above the diaphragm. In one case, a chest tube was inserted for presumed "pneumothorax" and resulted in draining of gastric contents. Thoracentesis is not recommended in suspected cases.[11] Barium enema or barium swallow is more helpful for diagnosis in the delayed phase. In herniation of the stomach, barium usually does not pass through the hernia ring into the herniated stomach. In herniation of the colon, the obstructed colon often does not fill with contrast material either. In general, Desforges[4] suggested in the immediate phase, the suspicion of diaphragmatic disruption is born out by impressive symptoms such as dyspnea, cyanosis, and shock, associated with abnormal intrathoracic shadows in the chest X-ray. The delayed phase is diagnosed from the patient's history. Gastrointestinal complaints such as epigastric distress, gaseous eructation, postprandial discomfort, and obstipation are confirmed by studies such as barium swallow or barium enema.

The ruptured diaphragm is not a solitary injury but often part of multiple organ trauma. Adams and Musselman[12] described a "triad of injury" to the spleen, kidney, and diaphragm. This is quite compatible with our series (Table II). The organs most frequently herniated into the pleural cavity were the colon, stomach, omentum and small bowel. Herniation of the stomach into the hemithorax is an ominous sign because 50% (2 of 4 patients) developed strangulation and perforation. There was no gangrene or perforation of the herniated colon in our series. Childress[13] called attention to fractures of the pelvis and lumbar vertebra to alert the examiner to the possibility of traumatic diaphragmatic hernia. In our series we had four pelvic fractures and one lumbar spine contusion.

Regarding the treatment, surgical repair is advocated. No such wound can be presumed to heal spontaneously and each must be considered a potential threat to the patient's life.[14] In acutely injured patients we recommend the transabdominal approach because of (1) frequent association of the intra-abdominal injuries, (2) lack of adhesions between the herniated viscera and the intra-thoracic structures, and (3) absence of intra-thoracic injuries requiring thoracotomy for management in the majority of these patients. However, Orringer[14] advocated a 45-degree oblique positioning of the patient with preparation and draping from the shoulders to the groins. This permits extension of the abdominal incision into the chest or a separate thoracic incision if necessary. Decompression of the dilated or incarcerated stomach with a nasogastric tube is also necessary. Intubation of the awake patient under topical anesthesia is also recommended to prevent regurgitation or aspiration during the induction.[14] In general, most surgeons agree that the transthoracic approach is preferred in immediate right-sided or in delayed left-sided diaphragmatic hernias. This allows (1) lysis of adhesions between the herniated viscera and the pleura, (2) good mobilization and exposure to repair the laceration, (3) facility to deal with common associated injuries such as ruptured spleen or kidney, and (4) provisioning for using a "patch repair" either autogenous or synthetic. Preferred is the thoracic approach for the right sided injury, because of the buffer protection of the liver causing technical difficulty. In either event, if one uses the transabdominal or transthoracic approach, closure of the defect without tension is most important. Complete mobilization of the herniated organs from the adjacent structures and debridement of the necrotic nonviable tissue are also important. If possible, gastrointestinal continuity should be restored if the gangrenous part of the stomach or small bowel is resected. However, in an unprepared incarcerated or strangulated colon, colostomy and resection should be performed without restoration of the continuity of the colon. A phrenic nerve crush was employed in 60% of the patients (67 of 112 patients) in Bernatz's report[15] to minimize tension for approximation. However, this caused paralysis of the diaphragm and loss of pulmonary function, requiring prolonged postoperative intubation and, therefore, is no longer recommended.

Primary approximation of the laceration was done in most cases, either by single layer or preferably two layer closure. Orringer[14] stated that the most important fact of closure is not whether the primary closure is done in one layer or two layers, but that each suture should be carefully taken through all tissue including the pleura, diaphragmatic muscle and underlying peritoneum. However, in our series, two of four single layer closures developed disruption of the diaphragm postoperatively; one requiring reapproximation using two layer imbrication sutures, and one requiring marlex mesh prosthesis to close the defect. Imbrication with non-absorbable sutures should be carried out in the initial repair to avoid this complication. Thoracoplasty was recommended for a peripheral torn diaphragm from the rib cage. Autogenous graft (such as fascia lata, pericardial patch) or synthetic graft (such as Dacron, Marlex or Ivalon) are also recommended for repair of a large defect.

Postoperative complications, especially those due to infection, developed in 50% of Bryer's series.[16] Our results were similar. Most complications were due to traumatic diaphragm injury per se, and some minor cases were due to the associated injuries. The operative mortality was 66% in Carter's series.[10] However, in a more recent series by Hood,[9] the operative mortality was 10.5%. Apparently the mortality rate has been steadily decreasing. In our series there was no hospital mortality. Although the numbers in our series are small and may not be statistically significant, we feel that postoperative ventilatory assistance, continued bowel decompression, re-expansion of the involved lung, appropriate antibiotic coverage and supportive treatment help to decrease the mortality and morbidity rate.

Summary

1. Most injuries followed blunt trauma (66.6%).
2. All patients had associated injuries.
3. Only one-third of the patients had a diagnosis of diaphragmatic rupture preoperatively.
4. The injury may remain undiagnosed from days to many months.
5. The dome and posterolateral portion of the diaphragm were most frequently injured.
6. An abdominal approach is recommended for most acute injuries.
7. A thoracic approach is recommended for right diaphragmatic rupture as well as for delayed diagnosis.
8. Two layer imbrication sutures are recommended for primary approximation.
9. A high index of suspicion is the most important single factor in diagnosis. The possibility must be considered in all cases of abdominal or thoracic trauma.

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Pharmacologic Maintenance of the Ductus Arteriosus

MICHAEL D. FREED, M.D.

During the 1930's Goldblatt[1] and von Euler[2] independently described the potent activity of seminal fluid on smooth muscle. The active agents, misnamed Prostaglandins by von Euler, were isolated by Bergstrom and Sjovall[3] in 1960 and have since been shown to be potent vasoactive agents with a wide variety of actions that depend upon the organ, species, the type of Prostaglandin investigaged. Since Hillier and Karim[4] noted the effects of Prostaglandin E and F in human umbilical and placental vessels, it has been postulated that they may play a role in maintaining fetal homeostasis. In 1973, Coceani and Olley[5] demonstrated that Prostaglandin E$_1$ (PGE$_1$) and E$_2$ markedly relaxed the isolated ductus arteriosus of fetal lambs. This in vitro effect was confirmed in the fetal calf and was also shown in vivo by Sharp and Larsson[6] in fetal rabbits. In 1975, these animal studies led to the first use of PGE$_1$ to dilate the ductus arteriosus in 2 infants with cyanotic congenital heart disease by Elliott, Starling, and Neutze.[7] Soon thereafter, a collaborative study was instituted and since December of 1975 1000 neonates with congenital heart disease at 110 centers have been treated.*

To appreciate the benefits of PGE$_1$ in infants with congenital heart disease, one must first be familiar with the normal fetal and transitional circulations. In the fetus, oxygen is obtained not via the lungs but from maternal arterial blood that circulates through the placenta. In the fetal circulation, most of the blood ejected from the pulmonary artery passes through the ductus arteriosus into descending aorta and then into the placenta where oxygen exchange takes place (Figure 1). Flow in this direction is facilitated by a high pulmonary arteriolar resistance due to pulmonary arteriolar vasoconstriction, and a low systemic arteriolar resistance because of the interposition of the very low resistance circulation through the placenta.

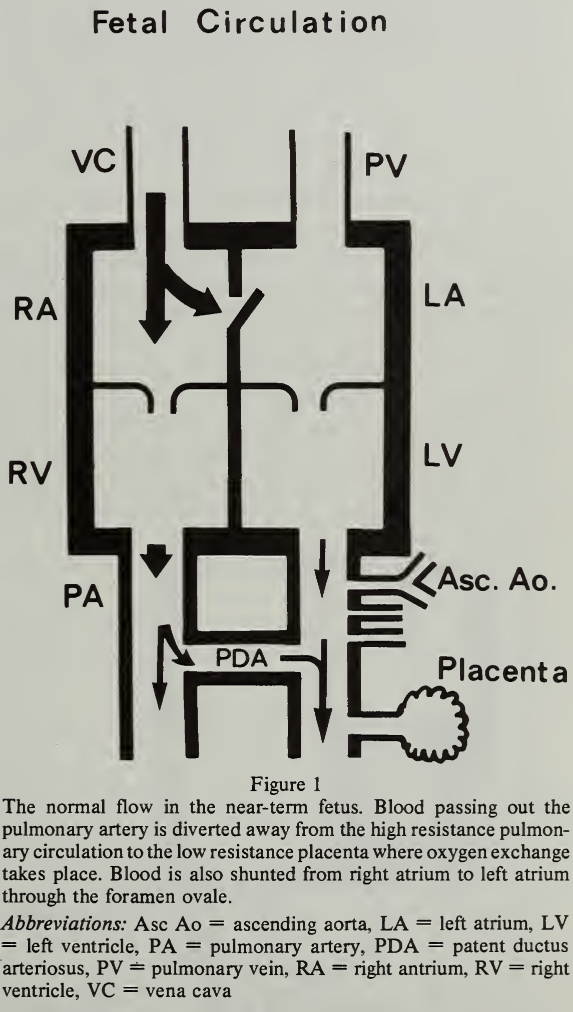

Figure 1
The normal flow in the near-term fetus. Blood passing out the pulmonary artery is diverted away from the high resistance pulmonary circulation to the low resistance placenta where oxygen exchange takes place. Blood is also shunted from right atrium to left atrium through the foramen ovale.

Abbreviations: Asc Ao = ascending aorta, LA = left atrium, LV = left ventricle, PA = pulmonary artery, PDA = patent ductus arteriosus, PV = pulmonary vein, RA = right antrium, RV = right ventricle, VC = vena cava

After birth the pulmonary arteriolar resistance decreases as the lungs expand and the arterial $p0_2$ increases, and the systemic resistance increases as the umbilical cord is clamped or the umbilical artery constricts. This drop in pulmonary resistance and increase in systemic resistance reverses flow through the ductus arteriosus so that until the ductus arteriosus

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*The collaborative study was sponsored by the Upjohn Co., Kalamazoo, Michigan.

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closes in the few days after birth there is little flow or perhaps a small shunt from aorta to pulmonary artery.

Certain types of congenital cardiac malformations disrupt these normal fetal pathways so that flow through the ductus arteriosus is less important in utero, but becomes crucial to survival after birth. One example of this type of cardiac malformation involves atresia of the pulmonary valve. This is an uncommon congenital cardiac defect occurring in one out of 15,000 live births and representing about 3% of all infants with congenital heart disease. In utero, a baby with pulmonary atresia and intact ventricular septum is not at a disadvantage (Figure 2). Blood that is normally destined for the right ventricle and pulmonary artery is diverted into the left atrium, left ventricle, and then into the aorta. Most of the cardiac output goes through the ascending aorta into descending aorta and then placenta. The pulmonary blood flow is derived not from blood going through the pulmonary valve which is atretic, but instead via the ductus arteriosus. The right ventricle is usually hypoplastic. While this variation supports the circulation perfectly well in utero and results in newborns of normal weight and development, after birth the only way that blood can get into the lungs for oxygenation is via the ductus arteriosus. As this begins to constrict in the first day or two after birth as it almost invariably does, the babies become severely hypoxemic and if untreated soon become acidotic and die. By infusing PGE_1 either intravenously or intra-arteriorly, one can again open the ductus arteriosus, increase pulmonary blood flow, improve oxygenation, and reduce acidosis (Figure 3). Between December of 1975 and June of 1979, a total of 385 infants with ductus arteriosus dependant cyanotic congenital heart disease were treated with PGE_1 as part of a collaborative project among 56 centers.[8] Data on the arterial pO_2 before and during PGE_1 infusion was available on 333 infants. Two hundred thirty-one of the infants had pulmonary atresia, 125 in association with a ventricular spetal defect. There were 47 infants with pulmonic stenosis; 25 with a ventricular septal defect, and 22 with intact ventricular septum; 23 infants with tricuspid atresia, 21 transposition of the great arteries, and 11 had miscellaneous lesions. The infants ranged in age at the onset of the infusion from 5 hrs to 3 months with a median of 36 hrs. Eighty-six percent were less than 4 days of age. In this group of 333 infants, the mean PaO_2 for the entire group was 26.7 torr before infusion and rose to 38.5 torr during the infusion. There were no significant differences between the pre-infusion PaO_2, PaO_2 during infusion, or increase in PaO_2 between infants with pulmonary atresia, pulmonary stenosis, or tricuspid atresia. The group of 21 infants with transposition had a somewhat lower pre-infusion PaO_2 and a lower PaO_2 during infusion but the overall increase in PaO_2 was similar to that in the other group of infants. The reason for these differences will be discussed later in the paper. Responsiveness of the ductus arteriosus to PGE_1 was age related. When those infants older than 96 hrs were compared to those younger, the change in PaO_2 was much less striking (3.8 torr vs 13.0 torr). It thus appears that PGE_1 is effective in dilating the ductus arteriosus until complete closure has occurred. Once this bio-

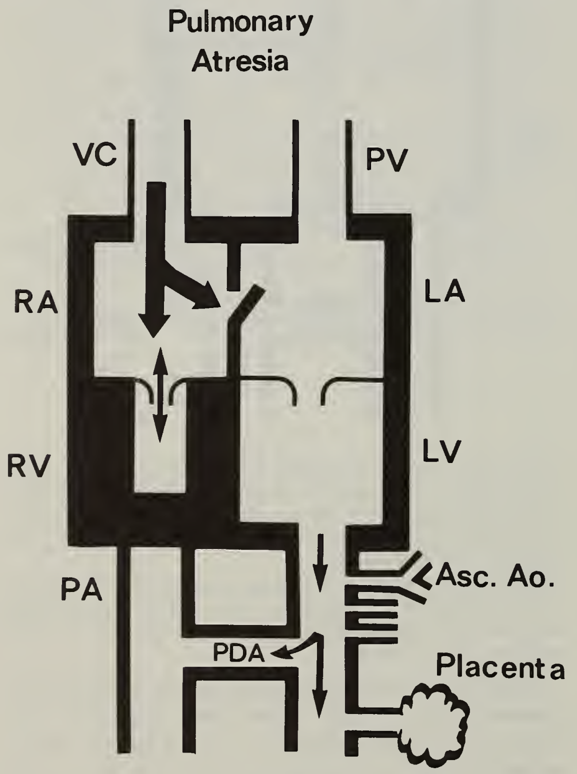

Figure 2
Blood flow in near-term fetus with pulmonary atresia. The right ventricle is usually hypoplastic. For description see text. Abbreviations same as in Figure 1.

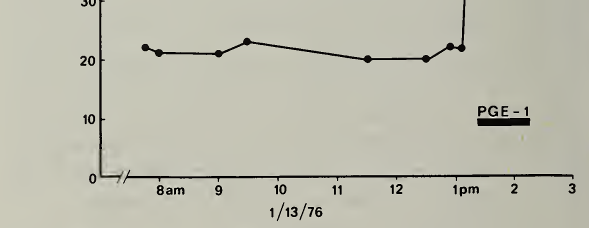

Figure 3
The arterial $p0_2$ in a newborn with pulmonary atresia. The $p0_2$ rose from 21 torr to 53 torr after PGE_1 infusion was instituted at 1:10 p.m.
Abbreviations: OR = operating room, PGE_1 = prostaglandin E_1, UA = umbilical artery

chemical and/or mechanical event has occurred, PGE_1 is ineffective in reopening the ductus. In those infants less than 96 hrs old the improvement in oxygenation was inversely proportional to the initial PaO_2. The infants with an initial PaO_2 of less than 20 torr had the greatest improvement (change in PaO_2 of 19.7) while those with an initial PaO_2 of greater than 40 torr had virtually no response (change in PaO_2 of 0.5). If one selects an increase in PaO_2 of 5 torr or greater to define a clinically significant response, 88% of the infants less than 96 hrs old having an initial PaO_2 of less than 20 torr responded favorably. If a 10 torr increase is selected to define a clinically significant improvement, 77% of infants were responders.

The second group of infants with congenital cardiac malformations in whom PGE_1 has proven to be useful is the group with coarctation of the aorta or interrupted aortic arch. Neither of these lesions is common but together they represent approximately one per 6,000 live births and about 8% of all infants we see with congenital heart disease during the first month of life. In utero, interruption of the aortic arch (Figure 4) is hemodynamically insignificant. In the normal fetal circulation very little blood, perhaps 10% of cardiac output, passes across the aortic arch beyond the left subclavian artery. Most of the descending aortic flow is via the ductus arteriosus. Even if this area is totally atretic, it does not significantly affect fetal growth and development. After birth, however, when the ductus arteriosus begins to close, the total blood supply to the descending aorta supplying the abdominal organs and lower body is compromised. The rapidly proceeds to a shock-like picture with acidosis and death. PGE_1 by keeping the ductus arteriosus open maintains blood supply to the descending aorta until some type of palliative or corrective operation can be performed.

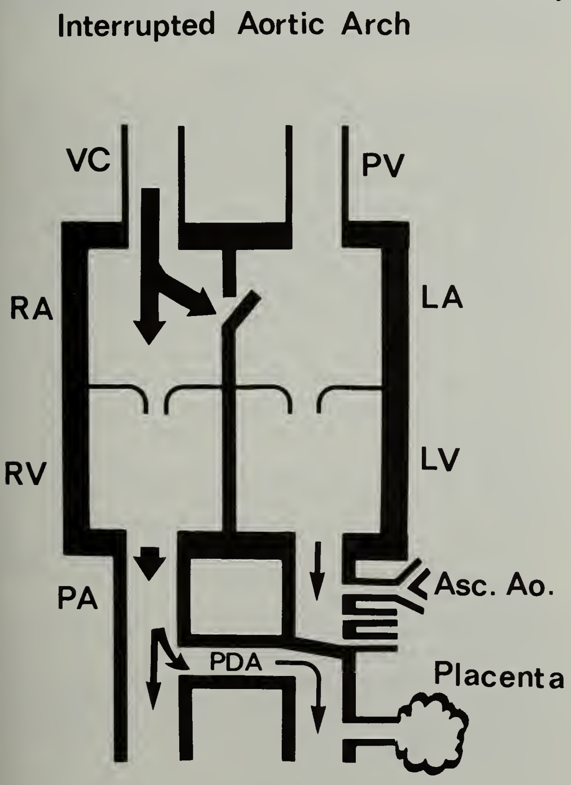

Figure 4
The course of the circulation in the near-term fetus with an interrupted aortic arch. For description see the text. Abbreviations are the same as Figure 1.

During the 3½ year interval mentioned previously, a total of 107 infants with acyanotic congenital heart disease and ductal dependent systemic blood flow received PGE_1; 46 had coarctaction of the aorta, 34 had aortic arch interruption, 19 had the hypoplastic left heart syndrome, and 8 others had miscellaneous lesions. When given for this indication it was felt that PGE_1 was either useful or very useful in 70% of infants. Approximately 40% of the infants were acidotic at the time of infusion (pH less than 7.25) and in these, 68% noted a significant increase in the pH.

The final group of infants in whom PGE_1 has been life-saving have transposition of the great arteries. This is the most common type of cyanotic congenital heart disease and is found in one per 4,500 live births. It represents about one out of seven infants who present with congenital heart disease during the first months of life. In this condition the aorta arises from the right ventricle and the pulmonary artery from the left ventricle (Figure 5). The circulations are arranged in parallel rather than in series; that is, blood that has returned to the right side of the heart from the vena cava passes from the right ventricle into the aorta and back into the systemic circulation. Conversely, blood that has been oxygenated in the lung returns to the left atrium and left ventricle and then gets pumped out into the pulmonary artery. In utero this does not profoundly affect the circulation since the right ventricular blood is pumped out into the aorta and then down the descending aorta to the placenta for oxygenation. Blood that returns to the left atrium and left ventricle goes out the pulmonary artery but since the pulmonary resistance is elevated most goes through the ductus arteriosus into the descending aorta. After birth, however, the parallel circulation prevents oxygenated blood from reaching the body. Survival for any length of time is depended upon mixing between these two parallel circulations. While the ductus remains open adequate mixing is possible but as it starts to close, the mixing is markedly reduced and these children become hypoxemic and acidotic and without pharmocologic or mechanical intervention, acidosis and death soon follow. Many children have a marked improvement after a balloon atrial septostomy.[9] Before this procedure can be performed, or after septostomy if mixing is still poor, dilating the ductus arteriosus with PGE_1 can improve mixing between the circulation and therefore improve oxygenation and reduct acidosis. A total of 24 infants

Transposition of the Great Arteries

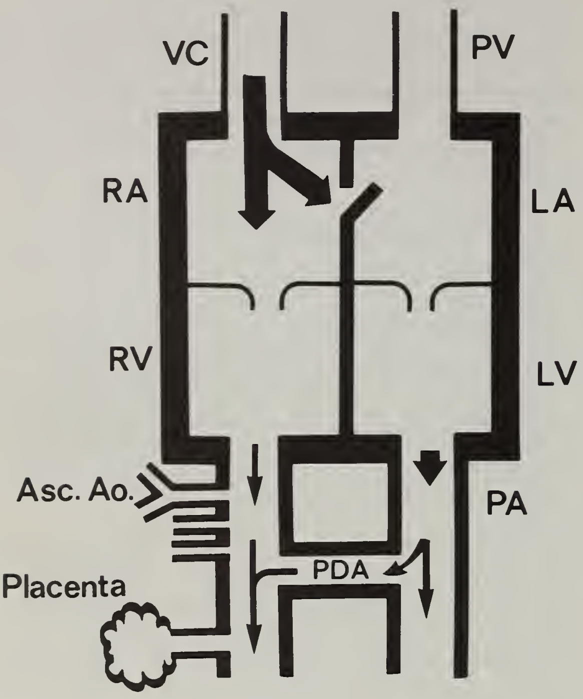

Figure 5
The course of the circulation in the near-term infant with transposition of the great arteries. For a description see the text. Abbreviations are the same as Figure 1.

with transposition of the great arteries and an intact ventricular septum have received PGE_1. In the 23 in whom the $Pa0_2$ was measured before and after infusion, it rose from 22.9 to 31.8 torr. All 9 with an initial arterial $p0_2$ of less than 20 increased by more than 5 torr during the infusion, and 7 of the 9 increased by more than 10 torr. In 6 out of 7 neonates with an initial pH of less than 7.30 prior to infusion, the arterial pH improved by greater than 0.10 units.

The use of PGE_1 is not without complications. Of the 492 infants who had received PGE_1 as of June 1979, more than 40% had some type of intercurrent medical event.[10] Complications were found in virtually every system. The most common were cardiovascular side effects that consisted primarily of hypotension or vasodilatation. One of the more frightening events was apnea. Typically, a child with cyanotic heart disease would be quite cyanotic but breathing quite comfortably. With the start of PGE_1 infusion, the child may take one or two final gasps and then be totally apneic. This apnea, almost certainly due to depression of the respiratory center in the central nervous system, lasts about 30 minutes and occurred approximately 11% of the infants who received PGE_1. One must therefore be prepared to assist ventilation in these infants before one starts the infusion. The only other intercurrent medical event that occurred with frequency of more than 5% was seizure activity. It must be remembered, however, that this is a group of very sick infants and it's not clear how many would have had "intercurrent medical events" in the absence of Prostaglandin infusion.

In summary, we have found PGE_1 to be efficacious in dilating the ductus arteriosus in infants with cyanotic congenital heart disease in whom pulmonary blood flow is dependant on patency of the ductus, in infants with coarctation of the aorta or interrupted arch in whom systemic blood flow is dependant on ductal patency, and in transposition of the great arteries where ductal patency improves mixing and therefore saturation. PGE_1 infusion, is however, a palliative procedure and its effectiveness lasts only as long as PGE_1 is given either intravenously or intraarterially. Thus far its primary use has been improving the situation of these critically ill infants so that they are better candidates for palliative or corrective surgery. The complications of this therapy are not minor but given the seriousness of the diseases and the markedly improved situation after PGE_1 infusion, we feel PGE_1 is useful to the Pediatric Cardiologists caring for these critically ill infants. Further research is necessary and is in process to develop long-acting oral preparations. PGE_1 was licenced as a new drug, Prostin VR, by the Food and Drug Administration in October 1981.

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Delayed Myocardial Rupture from Blunt Trauma

A Case Report

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ABSTRACT—Multiple injuries from high speed motor vehicle injuries are often complex problems of diagnosis and treatment. Complications from the injuries and failure of diagnosis or inappropriate therapy often result in death. This is a report of a 36 year old patient who sustained severe blunt trauma to the chest and abdomen causing bilateral hemopneumo thorax, right sided pulmonary contusion, massive tracheal bleeding and intraperitoneal hemorrhage. After a brief period of stabilization with endotracheal intubation and bilateral insertion of chest tubes and fluids, the patient was operated upon and a splenorrhaphy and intraoperative bronchoscopy performed to rule out a tracheal or bronchial tear. The post-operative course was complicated by acute respiratory distress syndrome and on the fourth day the patient developed ST-T wave elevations on the EKG and on the following day died in cardiorespiratory failure. Post-mortem findings revealed bilateral pulmonary contusions and right upper lobe hematoma and a fibrinous pericarditis and an atrial septal tear. A review of the case and findings will be discussed.

Introduction

Blunt cardiothoracic trauma, a serious complication of high speed motor vehicle accidents, often presents a complex diagnostic problem. In many cases, the full extent of the multi-system injuries go unrecognized and inappropriate therapy may often lead to death. One of the most difficult injuries to diagnose is that of myocardial rupture and/or contusion. The physical findings, heart sounds and EKG changes may exhibit minimal pathology and are not related to the severity of myocardial damage. Shock may be the first sign presented to the clinician. Cardiac injury may evolve slowly over several days so that a contused yet normally functioning heart may suddenly rupture a few days after the initial trauma, leading to a rapid demise. The following case report clearly illustrates many of these problems in the multiple trauma patient.

Case Report

This was the first hospital admission for a 36-year-old healthy black male who was rushed to the Emergency Room twenty minutes after his automobile collided with a fixed obstacle at high speed. He was the sole occupant of the car and was not wearing a seat belt. On arrival in the Emergency Room the patient's initial signs were as follows: blood pressure on auscultation 80/50, pulse rate 106 and thready, respiration rate 20 and labored. He was alert, somewhat combative and oriented. There were multiple superficial lacerations over the right side of his face and his pupils were 1 mm bilaterally and reactive. Heart sounds were diminished throughout the precordium. No abnormal heart sounds or murmurs were appreciated at that time. Auscultation of the chest revealed bilaterally decreased breath sounds and no friction rub. Abdominal palpation elicited guarding and diffuse tenderness with absent bowel sounds. Rectal exam was negative for occult blood.

The patient suddenly developed respiratory distress, and following endotracheal intubation more than 250 milliliters of bright red blood were immediately suctioned. Chest roentenogram showed bilateral infiltrates and a bilateral hemopneumothorax. Bilateral chest tubes were inserted and one liter of bright red blood drained from the left chest and 50 milliliters from the right chest. Initial laboratory results were as follows: Hematocrit 23.4%, hemoglobin 7.8 grams %, amylase 150 Somogyl units. Arterial blood gases were: pH 7.22, pO_2-40 mmHg, pCO_2 33 mmHg, HCO_3, 13mEq/Li.

The patient was immediately transported to the Operating Room and preliminary bronchoscopy revealed active bleeding from several of the distal airways in both right and left lungs. There was no evidence of injury to the trachea or major bronchi. The patient was then explored through a midline incision and about a liter of blood was found secondary to an avulsion injury of the capsule of the lower pole of the spleen. A splenorrhaphy was performed and the remaining exploration of the abdomen revealed no other abdominal or retroperitoneal injuries.

Postoperatively the patient maintained a blood pressure of 104/66, a pulse of 124 and a temperature of 96.3°. Swan Ganz catheterization revealed an initial pulmonary artery pressure of 47/18 mmHg with pulmonary capillary wedge pressure of 13 mmHg. The urinary output averaged 100 milliliters per hour. Blood drainage amounting to a total of 1,000 milliliters in 24 hours continued from

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both chest tubes and bronchial tree. Six units of blood were transfused to maintain a hemoglobin of 10 gm %. Maintenance of satisfactory arterial pO_2 value of 64 mmHg initially required 100% O_2, 15 cm of positive end expiratory pressure (PEEP) and a tidal volume of 800 cc's. Over the next 48 hours the patient's requirement for PEEP and oxygen decreased until an arterial pO_2 of 71 mmHg was maintained with 60% oxygen. The patient's breath sounds improved and the infiltrates on chest x-ray cleared. Drainage from both chest and endotracheal tubes was minimal. Except for a brief episode of hypotension secondary to a run of premature ventricular contractions controlled with lidocaine, his vital signs remained stable for the next three postoperative days. On the evening of the third postoperative day, the patient's pO_2 decreased suddenly and an electrocardiogram showed ST and T wave elevations throughout the precordial leads which were suggestive of an anteroseptal infarct. A new S4 and systolic murmur were now heard on auscultation. The blood pressure dropped to 90/60 mmHg. The pulmonary artery pressure rose to 78/34 mmHg and both the pulmonary capillary wedge pressure and the right atrial pressure equalized at 20 mmHg. CPK enzyme drawn at that time was 1564 units. The MB fraction was 3% or 31 units. A Dopamine drip was started with restablization of the blood pressure to 120/80 mmHg; however, his arterial pO_2 remained dangerously low despite an increase in the FiO_2 to 100% O_2 at 15 cm of PEEP. The patient's arterial pO_2 decreased to 27 mmHg and remained low despite intensive support. On the fifth postoperative day the patient died.

The clinical diagnosis made at that time was multiple pulmonary and myocardial contusions with adult respiratory distress syndrome.

Post Mortem Findings

On the post mortem examination, significant pathology was discovered in both lungs and the heart. The lungs were boggy and totally consolidated. Some of the distal ramifications of the bronchial tree terminated in intrapulmonary hemorrhage. A large cavity of the right upper lobe measured 12 cm in diameter and contained clotted old blood. Histological preparation showed multiple intra-alveolar hemorrhage and hyaline membranes. The abdominal findings were negative and the spleen had healed primarily with no evidence of rebleed. The surface of the heart was found to be dull and roughened with a yellow granular discoloration. When the atria were opened, a 2½ cm jagged tear was encountered within a necrotic hemorrhagic portion of the inter-atrial septum (Figure 1). Histologic preparation of the heart showed fibrinous pericarditis and multiple areas of disrupted myocardial fibers and hemorrhage. Sections from the edge of the septal defect showed hemorrhagic necrosis and infiltration of round cells. The final pathologic diagnosis was pulmonary and myocardial contusion, shock lung and traumatic atrial septal defect.

Discussion

This case illustrates the multiplicity of problems encountered in patients with blunt trauma to the chest and abdomen. Initially the patient had sustained pulmonary, myocardial and splenic trauma leading to hypovolemia and respiratory insufficiency. The patient's hypovolemia was corrected and the pulmonary hemorrhage was eventually controlled. Respiratory insufficiency, as assessed by serial arterial and mixed venous blood gases, chest x-rays and auscultation of the chest, improved over the next two days. Then the patient suddenly developed severe refractory hypoxemia which ultimately resulted in death.

The sequence of events parallels the course of myocardial rupture proposed by Parmley in 1958.[1] The initial injury is classically a myocardial contusion which in most cases is non-fatal. However, if necrosis occurs,myocardial rupture may follow.[2]

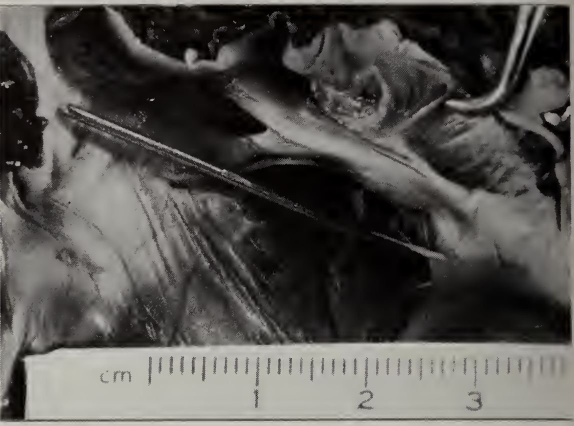

Figure 1
Traumatic Atrial Septal Defect seen from the right atrium showing a 3 cm jagged tear through a necrotic hematoma.

Anatomically, myocardial ruptures have been described occurring in a variety of locations including the ventricular, atrial and septal areas. A lone atrial septal rupture is extremely rare. In one of the first major articles on blunt myocardial trauma, Bright and Beck[3] found only one case of inter-atrial perforation out of 152 patients. In Parmley's series,[1] there were only 8 cases of inter-atrial septal perforation in 546 cases of significant blunt chest trauma. Only one case involving surgical repair of such an inter-atrial septal defect resulting from blunt trauma has been reported by Rao, et. al.[4] in 1977. Parmley's[1] description of an inter-atrial septal tear with jagged necrotic edges was quite similar to the findings of this report. Although no typical location for atrial septal tear was found, most extend to the edge of the fossa ovale. In our case the tear was high in the atrial septum and did not involve the fossa ovale (Figure 2).

The mechanism leading to an atrial septal defect secondary to blunt trauma is related to the forces generated within the heart at the instant of impact. When the impact occurs during early systole and deep inspiration, the A-V valves are closed and the blood flow to the atria is greatest. Blood filled atria will then be compressed against closed valves resulting in transmission of the hydrostatic forces to the atrial walls and septum.[1]

The physiologic significance of most lone traumatic atrial septal defects remains unknown. Parmley[1] could not ascribe a physiologic role for any of his cases of lone atrial septal defects because all of his patients died within two days of the injury. In Rao's case[4] report, the patient was discharged from the hospital and returned four months later with a right to left shunt. It was not clear why his patient had developed a right to left shunt, rather than a left to right shunt so soon after the creation of a traumatic defect. In our patient, the development of a right to left shunt was caused by the pulmonary hypertension from the contused and shocked lung.

Unfortunately, as in many cases, this complication may not be fully recognized until the time of autopsy. In

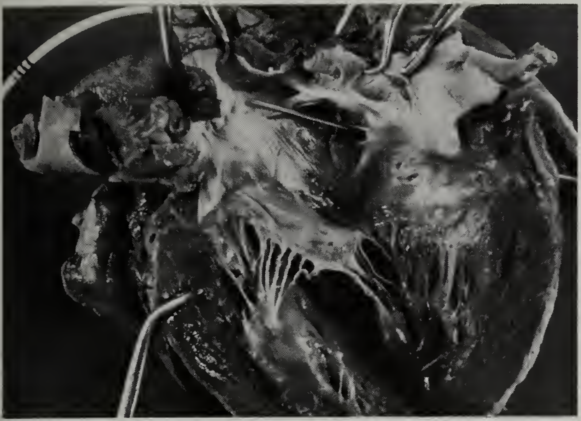

Figure 2
Traumatic Atrial Septal Defect. Probe passes from right atrium to left atrium. The defect is superior to the fossa ovale.

35 patients with myocardial rupture reported by Liedtke,[5] only one case was suspected prior to death. Most authors agree that the early detection of serious sequela of blunt myocardial trauma remains the major problem in providing adequate therapy.[3,6]

In myocardial contusion, a reliable finding has been the ST-T wave changes on serial EKG's.[5,7] In Pomerantz's series,[6] seventeen patients with myocardial trauma had ST-T wave changes. Other EKG abnormalities include the spontaneous appearances on conduction defects, and other non-specific changes which may mimic myocardial infarction. In the case presented, the patient had one episode of premature ventricular contractions on the first postoperative day and on the third postoperative day the EKG changes were "suggestive of acute antero septal myocardial infarction."

Another important clinical finding involves careful and frequent auscultation of the heart. Jones[7] reported that eleven out of 48 patients with significant cardiac contusion displayed auscultatory changes including abnormal heart sounds, murmurs and pericardial friction rubs.

The use of enzyme elevation measurements has not been as accurate in assessing blunt myocardial trauma[8,9] since many trauma patients have associated extensive bone and muscle injury which will mask any enzyme elevations due to myocardial damage. However, CPK (MB Band) and LDH isoenzyme elevations are usually elevated with myocardial contusion. Serial chest x-rays and arterial and mixed venous blood gas determinations may also help in confirming the diagnosis of myocardial contusion or rupture.

The authors of this paper recommend the following work-up for most patients sustaining severe blunt trauma to the chest: serial EKG's, daily chest x-rays, frequent and meticulous auscultation of the heart, daily isoenzymes of CPK and LDH and arterial and mixed venous blood gases. If any of the above reveal a suspicious change then cardiac catheterization should be performed on an emergency basis.

Blunt cardiothoracic trauma will continue to be a challenge to the surgeon. A realistic suspicion of cardiac injury must exist in cases of serious chest trauma before accurate diagnostic and therapeutic measures can be instituted.

Conclusion

A case of a healthy 36-year-old black male who sustained multiple bilateral pulmonary and myocardial contusion and splenic injury from an automobile accident is presented. The patient improved until the third postoperative day when he developed a severe hypoxemia and a right to left shunt which led to his death.

On autopsy, a very rare traumatic inter-atrial septal defect was discovered in addition to the expected pulmonary and myocardial contusions. It is believed that if diagnostic signs, including EKG's, S_4 systolic murmur, rapidly worsening arterial blood gases, equalization of right to left atrial pressures had been interpreted correctly, the diagnosis may have been made in time for transfer to a cardiothoracic unit for definitive repair. Unfortunately, there has been only one case of repaired traumatic inter-atrial septal defect and only eight cases of inter-atrial septal defect alone reported in the literature. The signs and symptoms of our patient corresponded to those of previously reported traumatic atrial septal defects and myocardial trauma.

The following clinical and diagnostic tests are recommended: serial EKG, daily chest x-rays, frequent auscultation of the heart, daily cardiac isoenzymes and frequent arterial blood gases to detect those trauma patients who need cardiac catheterization and possible cardiac surgery either on an emergency or elective basis.

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The Diagnosis and Treatment of Reye's Syndrome

SPONSORED BY THE NATIONAL INSTITUTE OF NEUROLOGICAL AND COMMUNICATIVE DISORDERS AND STROKE

Assisted by the Office for Medical Applications of Research, NIH

Introduction

The National Institutes of Health consensus development program brings together biomedical research scientists, practicing physicians, consumers, and others as appropriate, in an effort to reach general agreement on the safety and efficacy of a medical technology. That technology may be a drug, device, or medical or surgical procedure.

Following consensus meetings, summaries of conclusions and recommendations issued by consensus panels are widely distributed to the research, practicing, and lay communities. All shades of opinion are reflected in those summaries.

At NIH, the Office for Medical Applications of Research (OMAR) is responsible for coordination of the consensus development program. OMAR assists the individual NIH institutes, which sponsor the conferences, in this effort.

A Consensus Development Conference was held at the National Institutes of Health on March 2, 3, and 4, 1981, to address issues on the diagnostic criteria and treatment of Reye's syndrome.

On the first two days of the meeting, a consensus development panel and members of the audience reacted to evidence presented on the following questions:

- What are the key signs, symptoms, and laboratory findings of Reye's syndrome?
- What is the evidence for the effectiveness of the various treatments of Reye's syndrome?
- What are the clinical and experimental studies needed to advance our ability to diagnose and treat Reye's syndrome?

The members of the panel represented the disciplines involved in the diagnosis and treatment of those with Reye's syndrome. Panelists were nominated by seven specialty associations: the American Academy of Neurology, the American Academy of Pediatrics, the American Association of Neurological Surgeons, the American Society of Anesthesiologists, the American Academy of Family Physicians, the Child Neurology Society, and the American Nurses Association. This summary is the result of the panel's deliberations.

Reye's syndrome is a life-threatening illness that affects children of all ages, with a peak incidence between 5 and 15 years; on rare occasions it has been reported in adults. Although Reye's syndrome (encephalopathy with fatty degeneration of viscera) has been extensively investigated since the classic description of the disorder by Reye, Morgan, and Baral in 1963, the etiology and pathogenesis of this disease process remain obscure. The subcellular insult appears to affect mitochondria in multiple organ systems. Since prompt treatment may provide a better chance for complete recovery, early diagnosis is important.

Dissemination of information on the early symptoms of Reye's syndrome, diagnostic criteria, and essential aspects of therapy is recommended. Such information should be distributed to parents, physicians, and nurses to facilitate early recognition, diagnosis, and treatment.

1. What are the key symptoms?

Reye's syndrome should be suspected in a child who, during or while recovering from a viral illness (most commonly chicken pox or influenza), unexpectedly develops repetitive vomiting and altered behavior such as lethargy, confusion, irritability, or aggressiveness.

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Neither fever nor jaundice is usually present. In children under one year of age, respiratory disturbances such as hyperventilation or apneic episodes may be prominent. In this special group (<1 year old) seizures occur more frequently than in older patients. All children with the above pattern of illness should receive prompt medical attention.

2. What are the laboratory findings in Reye's Syndrome?

Helpful laboratory tests include the level of transaminases in serum, ammonia concentration in blood, and prothrombin activity. The activity of serum transaminases is at least three times upper normal limits, prothrombin time is usually prolonged, and blood ammonia concentration is usually elevated. Jaundice is conspicuously absent and bilirubin levels rarely are elevated. The concentration of glucose in blood is usually normal, especially in children 4 years of age and older. The cerebrospinal fluid (CSF) usually contains fewer than 8 cells per mm^3 and normal protein and glucose concentrations, except when there is concomitant hypoglycemia. Other recommended laboratory tests include determination of the concentration of glucose, calcium, and phosphorus in blood and of serum amylase activity. Serum should be analyzed for levels of salicylate and acetaminophen.

3. Where should a patient be treated?

It is most important that primary care practitioners be highly aware of Reye's syndrome and perform appropriate laboratory investigations promptly. Children with a history and laboratory findings suggestive of Reye's syndrome should be hospitalized for careful observation and receive glucose by intravenous infusion. Patients with Stage II* symptoms or worse should be cared for in a pediatric intensive care unit by a multidisciplinary team according to an established protocol, when available.

If the diagnosis of Reye's syndrome is made in a primary care setting, the physician should consult with colleagues in a pediatric intensive care center and discuss the timing of transfer. The transport team should be prepared to provide support for vital functions.

4. What are the currently used rating or classifying systems for measuring the severity of clinical symptoms? How useful are they?

A variety of staging systems based upon neurologic findings have been proposed for Reye's syndrome which has proven useful in assessing the severity of the illness, monitoring the effect of therapy, and predicting ultimate outcome.

The multiplicity of staging systems, however, has been confusing for clinicians and researchers alike.

5. Should a uniform system be recommended for general use?

The panel reviewed a number of proposed staging systems and recommends the system outlined in Table I for future use in management and study of Reye's syndrome. Patients with high concentrations of ammonia in blood early in the course of disease appear to have a less favorable prognosis.

6. When is a liver biopsy needed?

The diagnosis of Reye's syndrome can be made in most patients without a liver biopsy, a procedure not to be undertaken lightly in an uncooperative, critically ill child with defective coagulation. The results may confuse rather than inform unless the tissue is processed and interpreted by personnel in a center with special knowledge of the illness.

Nevertheless, a carefully planned biopsy, after correction of the coagulation abnormality, carried out by physicians experienced in performance and interpretation of the results of such biopsies, can provide important information in certain specific situations. Biopsy should be considered in: (1) infants, (2) children with recurrent episodes, (3) familial cases, and (4) nonepidemic (sporadic) cases without antecedent infection or vomiting. Biopsy also increases the certainty of diagnosis and is important if a new and potentially dangerous therapeutic regimen is planned.

Table I
STAGING OF REYE'S SYNDROME

	I	*II*	*III*	*IV*	*V*
Level of Consciousness	Lethargy; Follows Verbal Commands	Combative/ Stupor; Verbalizes Inappropriately	Coma	Coma	Coma
Posture	Normal	Normal	Decorticate	Decerebrate	Flaccid
Response to Pain	Purposeful	Purposeful/ Nonpurposeful	Decorticate	Decerebrate	None
Pupillary Reaction	Brisk	Sluggish	Sluggish	Sluggish	None
Oculocephalic Reflex (Doll's Eyes)	Normal	Conjugate Deviation	Conjugate Deviation	Inconsistent or Absent	None

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*Stages in this paper refer to those described in Table I.

7. What other conditions may present with similar symptoms?

There is a lengthening list of illnesses that may be temporarily misidentified as Reye's syndrome. We now recognize that transaminase elevations may occur in children with varicella without Reye's syndrome and in shock of hypoxia due to a wide variety of illnesses. Intramuscular injections (especially of a commonly used antiemetic, chlorpromazine) and protracted seizures may increase levels of transaminases in serum in a variety of diseases which affect the central nervous system. Methyl bromide, hypoglycin (senecio alkaloid), isopropyl alcohol, folk remedies (pyrrolizidine and margosa oil), aflatoxin, lead, and toxicity from some drugs (e.g., aspirin, acetaminophen, and valproic acid) may produce disturbances of consciousness and elevation of serum transaminases.

When confronted by familial or recurrent episodes of Reye-like illness, the physician should consider an inborn error of metabolism, especially systemic carnitine deficiency, glutaric acidemia, ornithine transcarbamylase deficiency, or hereditary fructose intolerance.

8. What special diagnostic tests are needed?

Computerized transaxial (CT) brain scanning is neither necessary nor indicated for diagnosing Reye's syndrome unless there is a clinical suspicion of a disease other than Reye's syndrome, e.g., subdural hematoma, brain abscess, etc. Thus, CT scanning is not an integral part of the diagnostic evaluation of the child with Reye's syndrome. If, however, the test is done early in the course of the illness, it will show either a normal pattern or evidence of diffuse brain edema, with no displacement of the ventricles or localized areas of enhancement.

The usefulness of electroencephalography (EEG) depends on the availability of appropriate equipment and individuals skilled in EEG interpretation. In general, the EEG has not proved to be helpful in following patients, determining prognosis, or altering treatment.

9. What have been the indications for intracranial pressure monitoring? What devices are available? What are the goals in reducing intracranial pressure and when can monitoring be stopped?

Since 1975, several reports have suggested that invasive monitoring of intracranial pressure may be useful in the management of children with Reye's syndrome. The devices in use can provide continuous measurement of pressure in the epidural, subarachnoid, or ventricular spaces. The difficulties inherent in assessing the usefulness of this procedure, employed to monitor rather than to treat, have produced conflicting opinions. Some physicians believe it improves their ability to manage patients, others do not. Mortality and morbidity directly attributable to monitoring devices appear to be low in the medical centers where they are used frequently. Data are inconclusive regarding criteria for discontinuation of such monitoring.

10. What are appropriate therapies in the noncomatose patient?

Therapy for Stage I patients includes administration of dextrose-containing fluid. While there are no studies documenting that glucose administration in excess of that provided by 5 percent glucose solution at maintenance rate is definitely beneficial, a number of considerations have prompted many clinicians to administer 10 percent dextrose solutions to these mildly affected children. If neurologic deterioration occurs, the rate of fluid administration must be adjusted to maintain critical organ perfusion. Episodes of hypotension have been reported with maintenance rates of fluid administration following osmotic diuresis.

For many reasons, hemodynamic monitoring is important. Arterial catheters permit continuous blood pressure measurement and frequent arterial blood-gas sampling. Central venous catheters may provide useful data concerning blood volume and cardiac function, while pulmonary artery catheters (providing measurement of cardiac output) may be helpful in selected seriously ill children. While central venous catheters may be preferable in patients with normal cardiopulmonary function, the management of complicating cardiac dysfunction due to disease or drugs may make more complete monitoring necessary.

Intubation of patients with Reye's syndrome has received general acceptance, although there is disagreement as to what criteria are used to make the decision to intubate. There is agreement that intubation should be elective (i.e., prior to respiratory failure or cardiac arrest). It is most often prompted by deteriorating neurologic progression toward coma and is accomplished with intravenous succinylcholine and barbiturate.

11. What are the important metabolic derangements and are they amenable to treatment?

There are many documented metabolic derangements in Reye's syndrome, including hypoglycemia, hyperammonemia, hyperlactatemia, short chain fatty acidemia, hypophosphatemia, hyperaminoacidemia, azotemia, hyperuricemia, elevations of several hormones, and a mixed acid-base disorder. Accepting these well-documented findings and their relationship to the severity or treatment of the disease remain speculative. Although the degree of metabolic perturbation roughly parallels the severity of clinical illness, efforts (dialysis, amino acid infusion, phosphate and insulin infusions) to correct specific metabolic abnormalities have not clearly altered outcome.

Administration of vitamin K is generally accepted, although it is recognized that it is unlikely to correct fully clotting abnormalities. If significant bleeding occurs, exchange transfusion with fresh blood or administration of fresh frozen plasma may be helpful.

12. What are the therapies for increased intracranial pressure?

While the encephalopathy of Reye's syndrome is not always associated with increased intracranial pressure, such elevations frequently complicate the care of patients in coma. In lieu of specific treatment of the encephalopathy, much effort has been directed to the control of increased intracranial pressure. Measures commonly employed include osmotherapy and spontaneous or controlled hyperventilation. Experimental measures include high-dose barbiturates, corticosteroids, CSF withdrawal, and decompressive craniotomy. Use of newer techniques of monitoring and treating cerebral edema should be reserved for centers experienced in the diagnosis and management of children with severe neurologic disorders. To date, groups employing these experimental measures have failed to demonstrate better survival rates than those providing intensive supportive care.

13. What therapies are directed at removal of presumed toxins?

Exchange transfusion, dialysis, total body "washout," charcoal hemoperfusion, and plasmapheresis have all been suggested as potentially helpful by removing an unidentified toxic substance from patients with Reye's syndrome. There is no evidence that the use of these techniques improves outcome.

14. What are the residual findings?

Complete recovery may be expected in the majority of patients who survive the acute illness. However, some children who experience coma may suffer brain damage resulting in developmental delay, motor impairment, or mental retardation. Normal functioning in school may be delayed for some weeks. Children may be able to do the prescribed school work, but at a slower rate. Sometimes distractability, inattention, and memory problems occur.

Anxiety and apprehension associated with fear of bodily harm and death are frequently encountered in these children while hospitalized and following discharge from the hospital. Such fears can be helped by gentle parental support. Overprotectiveness of the child by the parents can accentuate behavioral or school problems and should be avoided.

Extensive psychological and educational testing appears to be unnecessary except in a study setting. Assisting school personnel in providing learning experiences geared to the individual needs of the recovering child may be required. Family guidance and counseling may be useful and are encouraged.

15. What are the areas of future research?

Potential areas of research include: epidemiology, etiology, pathogenesis, diagnosis, management, and outcome. Most important is elucidation of the etiology and pathogenesis of this syndrome, with prevention as the ultimate goal.

Epidemiology

The low incidence of this disease results in small numbers of patients available for study at any single institution. The designation of a specific diagnostic code for Reye's syndrome in the International Classification of Diseases (10th Revision, Clinical Modification) would facilitate the determination of a more accurate incidence rate for Reye's syndrome.

Studies stratifying cases by age, sex, and race, by socioeconomic and environmental characteristics, and by geographic areas and location of residence (urban, suburban, rural) are needed to elucidate factors which may be important.

Etiology

Although the etiology of Reye's syndrome remains unknown, an association with a recent viral infection, especially influenza B and varicella, is well-established. However, the development of Reye's syndrome following any of these viral infections is uncommon, and why only certain individuals develop the disease deserves further study. In addition, three recent population-based case-control studies have demonstrated an apparent association between salicylate usage and Reye's syndrome. Since the specific questions posed to the panel and discussed at the consensus conference were limited to diagnosis and treatment, the data on which this association is based were not presented but were discussed by several participants in the conference. Each of the three studies indicates an increase in the estimated relative risk of Reye's syndrome, which does not appear to be due to chance. However, other possible explanations of this association include the following: potential biases such as case-control selection (e.g., comparability of antecedent illness), information gathering (e.g., based on recall), and confounding (e.g., indications for salicylate use).

Parents and physicians should be aware that most, if not all, medications have potential deleterious effects; thus, caution in the use of salicylates in children with influenza and those with varicella is prudent. Currently, the risk of these effects is unknown for salicylates or for other antipyretic medications. Since salicylates have been given to children with illnesses predisposing to Reye's syndrome without adverse effect, and cases of Reye's syndrome have occurred in which salicylates had not been administered, salicylates alone cannot be responsible for the development of Reye's syndrome. However, certain similarities between salicylism and Reye's syndrome and those studies reporting an association between Reye's syndrome and salicylate ingestion indicate a need for further carefully designed studies before recommending changes in antipyretic therapy of children.

The role of influenza and other viruses, aflatoxins, and genetic predispositions also deserve study.

Diagnosis

Although guidelines for the recognition of Reye's syndrome are generally accepted, information on the validity of the many proposed screening (clinical and laboratory) tests is incomplete and based on small numbers of patients or nonuniform diagnostic criteria. Particular attention should be given to documenting the sensitivity, specificity, and predictive values associated with various tests.

Management and Outcome

Critical and comparative evaluation of the treatment of Reye's syndrome can only proceed within the framework of a randomized controlled trial. A need exists for determining the best available monitoring procedures, seeking the most sensitive indicators of patient status while exposing the patient to the minimal risk. Evaluations of treatment and minitoring regimens require strictly defined protocols and a sample size necessary for statistical analysis.

Both the short-and long-term sequelae related to Reye's syndrome should be evaluated.

Subtle effects on mental and motor capabilities should be evaluated using longitudinal data analysis. When possible, evaluations should be conducted without knowledge of the patient's treatment or monitoring regimens.

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A bibliography on Reye's syndrome is available from the Office for Medical Applications of Research, Building 1, Room 216, NIH, Bethesda, Maryland 20205. This bibliography was prepared by the Developmental Neurology Branch, National Insitute of Neurological and Communicative Disorders and Stroke.

Federal Health Legislation in Review: 1981

AMERICAN MEDICAL ASSOCIATION

Words such as "unprecedented" and "revolutionary" have often been used to describe the activities of the First Session of the 97th Congress. While such terms may appear to be overused at first glance, an analysis of last year's action points to the fact that there has never been a Congressional session quite like the one which adjourned last December.

It all began on election night with the surprise Republican take-over of the U.S. Senate—the first time the GOP has controlled either House in 25 years. It was then followed by the arrival of a new President who managed to turn the transition period into a time of mutual respect and favor with the Congress. President Reagan came to town with a view towards changing the way the U.S. government does its business. The popular perception, as expressed by Washington watchers, was that he would run into the same buzzsaw that cut other Presidents down to size—the U.S. Congress. Speaker of the House Thomas "Tip" O'Neill (D-Mass.) took special pains to tell the President that he would have to get used to the fact that in Washington the game that was played was "hardball."

By the time the session closed, it appeared that it was the President who had had the last laugh. He knew how to play the game and managed to force Congress to accept his economic program as a matter of faith and on a single series of budget votes. He used the Congressional budget system in a way never before tried or contemplated by its framers, with unprecedented success.

Even before Congress went into session the Administration had its game plan laid out. OMB Director David Stockman had developed his "black book" detailing a series of program cuts. Major components of the black book on health included the ill-fated "Medicaid cap," selected Medicare cuts, block grants for categorical health programs, phase-out of the health planning program, and an end to PSRO. Instead of introducing a series of bills to carry out its program, the Administration decided that the unprecedented use of the budget process was the quickest way to success. By adroitly using the reconciliation process the President was able to force a single vote in each House on his proposed budget cuts. By going this route he prevented individual constituencies and Congressional Committees from getting budget increases for selected programs.

While it was expected that the President would fare well with the new Republican Senate, the real surprise was the ability of House Minority Leader Robert Michel (R-Il.) to hold the Republicans together and the impact of the "boll weevil" Democrats who cast swing-votes allowing the President to have his way. In the Senate, Majority Leader Howard Baker (R-Tenn.) turned out to be a skilled legislative leader providing significant margins of victory for the President's program.

In August the President signed into law two acts that were the keystones of his economic program—PL 97-35, the Omnibus Reconciliation Act of 1981 (with $37 billion in program cuts and substantive law changes) and PL 97-34, his tax cut bill. Even with these victories the President pressed for still further cuts in the budget. This led to a situation that when the new fiscal year began (October 1, 1981), not one of the major appropriation bills had passed Congress. As a stopgap measure, Congress enacted the continuing authorization resolution through November 20. At that time the Congress passed an extension of the continuing authorization through the end of the fiscal year that did not meet President Reagan's budget goals. This generated the President's first veto of the year and a shut-down of the federal government for one day. In fast action, a compromise was worked out whereby the President received an additional $4 billion in budget cuts and the authorization was extended, but only through March 30.

Next year the pressure will still be on the budget process. It is now predicted that without significant cuts in entitlement programs (including Medicare and Medicaid), President Reagan will face the prospect of the largest peacetime federal budget deficit ever. Republicans in the Senate have indicated that they are pressing

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LEGISLATIVE ROUNDUP, January 15, 1982. A report on National Medical Legislation.

for a balanced budget by 1984 and progress towards that goal in 1983. Also on tap for this year is the Administration's "Competition" health insurance proposal and a major fight on the continuation of the health planning and PSRO programs. Finally, the Congress and the Administration will have to face some of the highly charged "social" issues that were postponed last year to allow the President to deal with the economy. Of special interest to medicine will be the debate on the possible banning of or restrictions on abortions.

Medicare/Medicaid

The major action of the First Session of the 97th Congress was centered on the budget and a major target for the cleaver was Medicare and Medicaid. The Omnibus Budget Reconciliation Act of 1981, PL 97-35, was the major budget vehicle and it contained over forty provisions that relate to the Medicare and Medicaid programs. With many state governments clamoring for changes to give them more flexibility to administer their Medicaid programs, significant changes were made in this program. Medicare changes were more on the order of minor "tinkering," as this was characterized by the President as part of the nation's social "safety net" program.

Two of the more significant *Medicare* changes dealt with reimbursement for hospital services. Under one change, Congress gave the Secretary of HHS the authority to set limits on reimbursement for outpatient services provided by hospitals. The key limiting factor that the Secretary is to use in setting the outpatient reimbursement figure will be the charge for a similar service in a physician's office. The other change established a maximum reimbursement level for routine hospital operating costs at 108% of the mean of such costs per diem for hospitals (down from 112%).

With regard to *Medicaid*, aside from the Budget Act's effect of reducing the amount of federal matching payments that a state may receive by reducing amounts the federal government will pay to states by an increasing percentage each of the next three years, the Act made major changes that allow states the opportunity to alter their programs in the name of greater state flexibility. States may elect not to cover all groups of medically needy, and they may also set limits on the scope of services offered to this group. Another major change involves the Secretary's authority to grant state waiver requests. Under this authority a state may limit beneficiary *freedom of choice*, implement a case-management system, and allow localities to act as central brokers to assist beneficiaries in selecting among competing health plans. Another waiver authority will allow states to provide non-medical home health or community-based services in lieu of intermediate care or skilled nursing facility services. To implement these changes, HHS issued Interim Final Regulations on October 1, 1981 and many state Medicaid agencies have already submitted various waiver requests.

Block Grants

One of the primary policy initiatives of the Reagan Administration in 1981 was the push for transferring various federally-administered categorical grant programs into block grants to the states. In the health area, the Administration originally proposed two block grants with very wide discretion granted to the states on spending the block grant funds. The proposal called for the block grants to be funded at a level 25% below that of the categorical programs being replaced. As finally enacted by Congress in the Omnibus Budget Reconciliation Act of 1981 (PL 97-35), four health block grants were created in the areas of preventive health, maternal and child health, mental health and substance abuse, and primary care. While the 25% funding authority reduction remained intact, much of the flexibility promised in the original block grant proposal was removed in the Congressional process and the final block grant package contains many special provisions requiring the states to use specified portions of their block grant allotments for particular earmarked purposes. Furthermore, the original block grant proposal would have transferred all health categorical programs into one of the block grants. As finally enacted, however, several programs were reauthorized as separate, categorical programs. The block grant issue was

HEALTH LAWS ENACTED—FIRST SESSION OF 97TH CONGRESS

1) Veteran's Medical Schools	HR 2156	PL 97-15
2) Health & Human Services Supplemental Appropriations	H.J. Res. 308	PL 97-26
3) Income Tax Reductions	HR 4242	PL 97-34
4) Budget Reconciliation	HR 3982	PL 97-35
5) Prisoners of War Health Benefits	HR 1100	PL 97-37
6) Extension of Saccharin Study and Labeling Act	S 1278	PL 97-42
7) Veteran's Disability Compensation	S 2917	PL 97-66
8) Continuing Appropriations	H.J. Res. 370	PL 97-92
9) Foreign Medical Graduates	HR 4327	PL 97-116
10) Black Lung Disability Fund	HR 5159	PL 97-119
11) Social Security Amendments	HR 4331	PL 97-123
12) Federal Physicians Pay Extention	S 1551	PL 97-141

one of the few in which the Reagan Administration did not fully achieve its goal and where the House Democrats were able to obtain adoption of their preferred version. It is likely that in 1982 the Administration will push to "purify" the block grant concept by permitting the states more flexibility in allocating their federal block grant allotments.

Competition

The issues of cost-containment and national health insurance, which had been major health issues in prior sessions of Congress, reappeared in a different form under the new Republican-dominated political climate. Instead of proposing a regulatory approach to hold down health cost increases and to assure that Americans are protected from the costs of catastrophic illness, the Administration and certain members of Congress advocated fostering competitive forces in the health care marketplace to help reduce rapidly escalating health costs. Three proposals were introduced in Congress: S 139 by Senator Hatch (R-Utah), S 433 by Senator Durenberger (R-Minn.), and HR 850 by Representative Gephardt (D-Mo.). The bills significantly differ from each other in the extent to which they would apply "competition" concepts to health care financing and delivery, but all would provide for the offering of multiple health insurance plans to employees and would limit the amount of employer-paid health insurance premiums that the employer could deduct as a business expense. The purpose of such provisions is to foster greater cost-consciousness in employee choice of health plan and thereby reduce overinsurance and overutilization of health care resources. The three bills also would require that employee-offered plans provide coverage for catastrophic medical expenses.

No action had been taken on any of the three bills in 1981. Three days of hearings were held on the subject of health care competition legislation last Fall. The hearing did not reveal any widespread support for the "competition" approach. Throughout much of the year, two HHS task forces worked on developing recommendations for an Administration-sponsored competition proposal to be presented to Congress. As the year ended, details emerged on the likely shape of the awaited Administration proposals.

Health Planning

Major modifications were made to the federal health planning law in 1981. The Budget Reconciliation Act (PL 97-35) reduced the annual authorization for the program to $102 million. The Act raised the dollar thresholds for certificate-of-need (CON) review as follows: major medical equipment from $150,000 to $400,000, new institutional health services from $75,000 to $250,000 and capital expenditures from $150,000 to $600,000. Significantly, the law was changed to permit the Governor of a state, upon application to the Secretary, to request that the Secretary eliminate the federal designation and funding of HSAs located within that state. The Governor would need to certify to HHS that the state is willing and able to meet the purposes of the Health Planning Act without any HSAs in the state. At least five states had requested such a designation before the end of last year. The 1981 Act also permits the Secretary to waive current requirements for appropriateness review, proposed use of federal funds review, and requirements that HSAs collect and publish data on hospital costs. The changes also included an extension of the deadline by one year for states to enact complying CON laws.

PSRO

The PSRO program, a target for federal budget cuts, was the subject of revisions incorporated in the 1981 budget bill. The most significant change authorized the Secretary of HHS to reassess the performance of the PSROs and to terminate up to 30% of those PSROs in operation on May 1, 1981, thus setting a maximum PSRO census of approximately 130 PSROs. The program was also altered so that state Medicaid agencies will no longer be mandated to have PSROs carry out review functions. However, states may contract with a PSRO to perform Title XIX mandated review. In addition to these changes the Secretary is to conduct a study into the relative performance of PSROs and report to Congress by September 30, 1982.

Categorical Health Grant Programs

As noted elsewhere, while the Reagan Administration was successful in consolidating a number of health grant programs into block grants to the states, the 1981 Budget Reconciliation Act left many programs to remain as separately authorized categorical grant programs. These include the primary care research and development program (to be repealed after 1982), the child immunization program, a newly created tuberculosis prevention program, venereal disease prevention and control, migrant health centers, and the family planning program. With regard to the controversial family planning program, Congress provided for the Secretary of HHS to study means of transferring the administration of the program to the states. In addition, the adolescent pregnancy program was replaced by a new adolescent family life program.

Manpower

The Budget Reconciliation Bill also continued health manpower programs and the National Health Service Corps (NHSC), but at substantially reduced authorization levels than had been considered by the

96th Congress. Major changes in the Budget Act include: reducing the number of new first year NHSC scholarships to 550; mandating that individuals fulfilling NHSC obligations through the private practice option must accept Medicare assignment and provide services to Medicaid beneficiaries; eliminating medical school capitation payments; and restructuring the financial distress grant program. Student assistance programs were continued, but at authorization levels that are substantially lower than previous years. In addition, Congress also passed HR 4327, an immigration bill containing provisions pertinent to foreign medical graduates (FMGs). Under this measure FMGs will be authorized to stay up to seven years to complete a residency program and substantial disruption waivers may be extended to December 31, 1983. The bill also eliminated the Board Certification requirement thereby waiving the requirement of passage of the Visa Qualifying Exam (VQE) for those FMGs licensed to practice medicine in a state prior to January 10, 1978.

Federal Trade Commission

The 1981 session was not a good one for the Federal Trade Commission (FTC). In 1980 legislation was passed limiting the FTC's authority and in 1981 two bills were introduced to restrict the FTC's authority even further. These two bills exempt state-regulated professions from the FTC's jurisdiction and make changes in the procedures the FTC can use to prevent unfair or deceptive acts. No action has yet been taken on the bills.

During this session, the FTC had to drop two controversial rulemaking proceedings. The FTC terminated a proposed rule that would have banned certain television advertising directed at children. The FTC originally proposed banning all children's advertising as being inherently unfair but in 1980 Congress prohibited the FTC from doing so. Also dropped was a proposal to prohibit physicians from sitting on the governing boards of Blue Shield and similar insurance plans. The FTC found that it was not necessary to deal with the problems and this practice on an industrywide basis.

Regulatory Reform

Legislation to reform the federal agency rulemaking process made significant progress in the First Session of the 97th Congress. Bills in the House (HR 746) and the Senate (S 1080) were reported out of Committees in their respective Houses and will likely come to floor votes early in the Second Session. The two bills are similar in many respects: they would both enact a statutory requirement that agencies conduct regulatory analysis for proposed "major rules" (rules costing $100 million per year in compliance costs)—the regulatory analysis would evaluate the costs and benefits of a proposed major rule. The bills also require that agencies prepare advance regulatory agendas and regulatory calendars to indicate likely areas of future rulemaking. HR 746 contains a "legislative veto" provision allowing both Houses of Congress to overturn a proposed rule; the President's signature would be required on the resolution of disapproval. S 1080 contains no such provision. Key issues to be resolved in the Second Session include the legislative veto (an amendment is expected to be offered to the Senate bill to permit a two-house veto *without* the President's signature and an amendment to the House bill would create a one-house veto), the extent of Office of Management and Budget (OMB) authority over individual agency rulemaking, and whether or not administrative rules should enjoy a presumption of validity when being challenged in the courts—the "Bumpers Amendment" to the Senate bill (introduced by Senator Bumpers (D-Ark.)) would eliminate this presumption of validity.

Rh Hemolytic Disease—Connecticut, United States, 1970-1979

CENTERS FOR DISEASE CONTROL
H.E.W., Public Health Service, Atlanta, GA.

Until the late 1960s, Rh hemolytic disease of the newborn (RhHDN) was a frequent cause of perinatal morbidity and mortality. The introduction of Rh immune globulin (RhIG) in 1968, however, gave promise of significantly reducing the incidence of this disease. When administered to unsensitized Rh-negative women after abortion, amniocentesis, ectopic pregnancy, or delivery of an Rh-positive infant, RhIG prevents maternal sensitization, thereby averting RhHDN in subsequent pregnancies. The effect of RhIG on RhHDN incidence during the past decade in the United States and Connecticut is discussed below.

Incidence rates for RhHDN in the United States (Figure 1) were ascertained through the CDC Birth Defects Monitoring Program (BDMP), which collects information from hospital discharge summaries nationwide on about 1 million births annually.[1] Since the hospitals included are self-selected and not a random sample, the percentage of births monitored varies among geographic regions. Overall, about one-third of the nation's births are included. In the period 1970-1979, the crude incidence of RhHDN decreased from 40.5 cases/10,000 to 14.3/10,000 total births (live and stillbirths). Most of this decline took place in the years 1970-1975. More recently, the incidence has stabilized, despite minor year-to-year fluctuations. Crude incidence rates in 1976, 1977, and 1978 were 16.0, 16.1, and 13.5 cases per 10,000 births, respectively.

To assess the accuracy of BDMP rates, RhHDN incidence rates for Connecticut, calculated from the BDMP, were compared with incidence rates calculated from Connecticut's Rh Registry (Figure 2). The Connecticut State Department of Health Services has maintained active surveillance of all cases of RhHDN and of the use of RhIG since 1969.[2] During the 1970s, about two-thirds of Connecticut's births were included in the BDMP surveillance. Although the rates reported by the BDMP were consistently lower than those based on Connecticut's Rh registry, trends in BDMP incidence rates—including the decrease in 1978—closely parallel trends observed in the registry data (Figure 2).

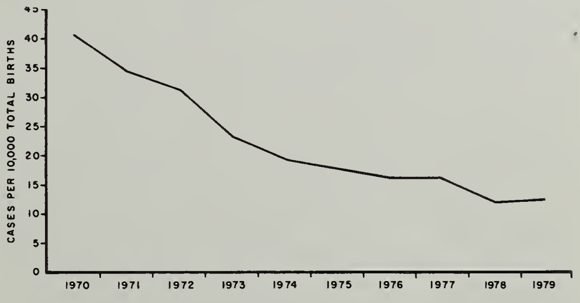
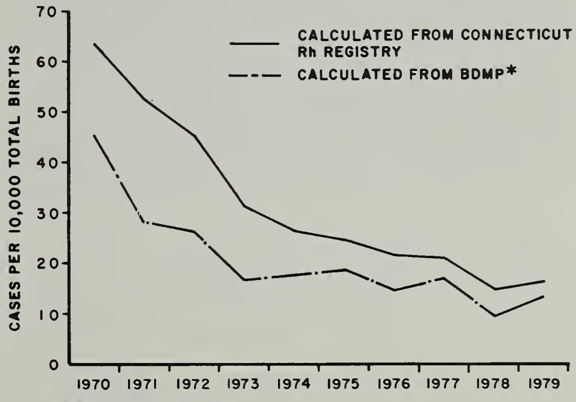


Figure 1
Incidence of Rh hemolytic disease of the newborn, by year, United States, 1970-1979.



*Birth Defects Monitoring Program, CDC.

Figure 2
Incidence of Rh hemolytic disease, Connecticut, 1970-1979.

Since the risk of RhHDN increases with birth order, data from Connecticut's Rh registry were used to

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Morbidity and Mortality Weekly Report, January 23, 1981, Vol. 30, No. 2.

calculate annual birth-order-specific incidence rates. For the years 1972-1977, RhHDN incidence for third-order births decreased from 77.0/10,000 births to 25.2/10,000. During that same period, the incidence for fourth-order births decreased from 98.4/10,000 births to 62.4/10,000, but showed greater fluctuations than for other birth orders—probably due to a smaller sample size. The incidence of RhHDN for first- and second-order births did not change significantly (chi-square test).

Since maternal age generally increases as maternal birth order increases, data from Connecticut's Rh registry also used to calculate maternal age-specific RhHDN incidence. During 1972-1978, the annual incidence rates of RhHDN for maternal ages <25 years were fairly stable despite year-to-year fluctuations. In comparison, incidences for maternal ages 25-29 and 30-34 decreased from 44.2/10,000 births to 12.5/10,000 and from 108.6/10,000 births to 20.6/10,000, respectively.

Reported by J. Gustafson, Office Maternal and Child Health, Connecticut State Dept. of Health Services; and Birth Defects Br., Chronic Diseases Div., Center for Environmental Health, CDC.

Editorial Note: In recent years, the nationwide crude incidence of RhHDN has decreased gradually, with minor year-to-year fluctuations. A similar pattern appears for Connecticut, although the incidence rates are higher—probably due to more complete ascertainment. Review of Connecticut's birth-order-specific and maternal age-specific incidence rates suggests that the greatest decrease has occurred among higher-order births and among women ages 25-34. The lack of change in RhHDN incidence among births to younger women is consistent with the observation of no change in the incidence among first- and second-order births.

The lack of a statistically significant change in RhHDN incidence for first- and second-order births may indicate that the lowest possible incidence that can be obtained by current practices of RhIG administration has been achieved. Because of the high utilization of RhIG during the past decade in Connecticut—99.5% of eligible Rh-negative women received RhIG postabortion and postpartum in 1979—the effect of RhIG on RhHDN incidence is particularly relevant. Birth-order-specific RhHDN rates for 1972-1977 averaged 6.2/10,000 first-order births and 20.7/10,000 second-order births; thus, the lowest attainable crude incidence may be within this range. Supporting this possibility are the recently observed crude incidence rates in Connecticut, which in 1977, 1978, and 1979 were 21.0, 14.6, and 16.1 per 10,000 births, respectively.

Current RhHDN incidence may be attributed to previous gaps in RhIG utilization, administration of an insufficient dose of RhIG, failure of RhIG to prevent sensitization, or sensitization during the third trimester. Since 1% of Rh-negative women may become isoimmunized by transplacental exchange during pregnancy,[3] some physicians advocate the use of RhIG at 28 weeks' gestation for all unsensitized Rh-negative women. However, this approach has potential drawbacks.[4] If acceptable techniques become available to identify women at high risk of isoimmunization or to identify fetal Rh type, selective antenatal administration of RhIG only to those at risk would be possible. Currently, RhHDN incidence can best be controlled by administering RhIG to unsensitized Rh-negative women after abortion, amniocentesis, ectopic pregnancy, or delivery of an Rh-positive infant.

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Physician Fees Under Medicare

How They Are Established

AMA COUNCIL ON MEDICAL SERVICE

Introduction

Since the enactment of the Social Security Amendments of 1965, the AMA has continually sought, through legislative and other means, to insure equitable and realistic levels of reimbursement for physician services under the Medicare program.

Problems related to inequities in Medicare reimbursement have, in some instances, been compounded by physician misunderstanding or lack of knowledge as to just how reimbursement levels are established under this program. For that reason, the AMA House of Delegates recommended that the Association make every effort to inform the profession as to the methods by which physician fee profiles and levels of reimbursement are established by Medicare.

This pamphlet, prepared by the Council on Medical Service in response to that recommendation, attempts to answer some of the questions most frequently asked by physicians on this subject. It is based on information contained in the Medicare Carrier's Manual, issued by the U.S. Department of Health and Human Services and on changes in Medicare law enacted in 1981.

Q. On what basis does the Medicare program pay for physicians' services?

A. Medicare pays 80 percent of the "reasonable charge" for covered physicians' services which are billed on a fee-for-service basis, after an annual $75 deductible, which is paid by the patient or beneficiary.

Q. What is a "reasonable charge"?

A. "Reasonable charge," as defined in Medicare law, is the *lowest* of:

(a) your "customary charge" for a service (the "customary charge" is the individual physician's median charge for the service, an amount which would cover his charge at least half the time he performed the service);

(b) your actual charge on a given claim, if lower;

(c) the "prevailing charge" for that service in your area (the prevailing charge" is the 75th percentile of customary charges for this service made by physicians of like training and skill in the area, weighted by frequency; that is, the "prevailing charge" is that amount which would cover the "customary charge" for the service in that area at least three-fourths of the times it is performed); or

(d) the charge on which the Medicare carrier bases payment under its own private policies.

Q. How is my "customary charge" calculated?

A. All the actual charges you have filed with a Medicare carrier during the previous calendar year (January 1 through December 31) are accumulated and used to develop a ceiling of customary charges for the fee screen year beginning the following July. Charge data are obtained not only from claims you have filed with Medicare on assignment but also from bills sent to patients when you do not accept assignment, and from the carrier's non-Medicare sources of information concerning your billing. Normally, it takes a minimum of three charges to develop your "customary charge" profile for any given procedure.

The customary charge is the median of your range of fees for a given procedure. For example, let us assume you have filed five claims for "office visits" in the previous calendar year. Your arrayed charges for the five visits were:

$ 8.00
$ 8.00
$ 8.00—median
$10.00
$10.00

The median charge for the service—and your "customary charge"—is $8.00, the point at which one-half of the charges are above and one-half below.

Q. How is a "prevailing charge" calculated?

A. As already noted, the "prevailing charge" is the amount which would cover the "customary charge" for the service in that area at least three-fourths of the times it is performed. The example below illustrates how this charge is calculated by Medicare.

75TH PERCENTILE—PREVAILING FEE

Customary Charge	*Number of Services*	*Percent of All Charges*	*Cumulative Percent*
$10	1402	28.04%	28.04%
$12	1115	22.30%	50.34%
$15	1680	33.60%	83.94%
$20	803	16.06%	100.00%
	Total 5000		

In this example, the 75th percentile includes charges up to and including $15. This includes the charges for 83.94% of the instances in which the procedure was reported. Although the 75th percentile is selected as the prevailing limit, the fact that the same charges are made many times may mean that a larger percentile is also covered in full, as in this example it covers 83.94% of the charges.

This procedure is followed to develop a prevailing fee for each procedure within a locality, and for different specialties for those procedures in which a given specialty's fee pattern differs from those of other specialties in the area. As a result, each Medicare carrier has many thousands of prevailing fees.

Q. How often are "customary charges" and "prevailing charges" updated?

A. Both the "customary charge" and the "prevailing charge" are calculated annually; payment screens are updated July 1 (the beginning of the "fee screen year") based on data on your and other physicians' charges made during the previous *calendar* year. Therefore, Medicare payment for most physicians' services is based on what the physician was charging a year to two years previously, and are that far behind charges to the non-Medicare public from the start. For this reason, the "reasonable charge" under Medicare will almost always be less than the actual charges being made by a physician at any given time.

Q. What is the so called "economic index," and how does it affect my fees under Medicare?

A. New "Economic Index" regulations, called for by Public Law 92-603, were published by the Department of Health and Human Services in final form on June 16, 1975. These regulations established a *maximum percent of increase* in "prevailing charges" which could be allowed for any year over the prevailing charges in effect during fiscal year 1973. The allowed yearly percent of increase is limited not only by actual increases in physicians' charges but by an economic index established by the Department of Health and Human Services, which is intended to reflect increases in the cost of doing business. The index operates on the assumption that 40 percent of a physician's income goes to expenses and 60 percent to net income. It allows an expense-related increase in the prevailing charge based on data on salary increases in non-medical service industries, on increases in housing and transportation costs, on wholesale price increases for drugs and pharmaceuticals, (for miscellaneous costs) on consumer price index increases, and on premiums for professional liability insurance. An increase in the net income component is allowed in proportion to increases in the earnings of production and non-supervisory workers, adjusted to eliminate productivity increases.

The economic index is calculated annually to determine the maximum allowable increase in prevailing charges. For the period of July 1, 1981, to June 30, 1982, the index has been set by the Department of Health and Human Services at 1.790; i.e., prevailing charges in 1981 can be no more than 79 percent above the level of prevailing charges in 1973 based on charge data from calendar year 1971. To implement this regulation Medicare Part B carriers will now, in effect, prepare three types of charge screens for each locality; a "customary charge" screen for the individual physician, based on his actual charges during the preceding calendar year; a "prevailing charge" screen; and a second "prevailing charge" screen developed by applying the current economic index to the FY 1973 "prevailing charge" screen. *Each physician's "reasonable charge" will be the lowest of the three figures.*

Q. I have just gone into practice and obviously I do not have any charges on record during the previous base calendar year. On what basis will Medicare reimburse me?

A. Because Medicare has no data on record for you, the formula used for reimbursement follows a Health Care Financing Administration directive concerning such circumstances. Physicians newly in practice are reimbursed on the 50th percentile of other physicians' charges. The 50th percentile is defined as that charge which includes the customary charges of the physicians performing at least 50 percent of the services in the same specialty and location. In many instances, this charge is equal to the prevailing fee in the community; in other instances, it may be significantly below the "prevailing charge." In addition, Medicare requires carriers to use at least three months' charge data in a given calendar year to establish a new physician's individual "customary charge" for the following fee screen year. Accordingly, a physician who begins practice after October 1, 1980, will be paid at a 50th percentile maximum until July, 1982.

Q. Can I have my profile adjusted to reflect my current charges which include changes I have made in my fees?

A. No. By law, each update, effective each July 1, is based on charges of the previous calendar year. Current changes in your fees will not be reflected in your profile until July 1 of the next year.

Q. When the next updated profile becomes effective on July 1, will it *always* reflect my new fees where I have made increases?

A. Not necessarily. Increases in a physician's customary charge profile depend on whether the median charge for the previous calendar year has changed. As an example, if a fee was increased in December of the previous calendar year, it is doubtful it will be recognized on July 1.

Q. Is Medicare prevailing fee data available, and, if so, how do I obtain it?

A. You can obtain prevailing fee data, which is arranged according to procedure, locality, and specialty, upon written request to your Medicare carrier, and usually at nominal cost. Individual physicians' Medicare fee profiles are also available on request by the physician or by members of the public.

Q. How do I obtain a copy of *my* fee profile from a carrier?

A. Address your written request to the Medicare carrier which serves your area.

Q. I have requested my profile, but not all my services are listed. Can you explain why my profile appears to be incomplete?

A. For a service to appear on your profile, you would usually have to have filed at least three or more charges for the same procedure in the same year. A single claim for a service does not provide enough data to determine whether that charge is your customary one. Profiles are not carried over from one year to another, but are based on the previous calendar year's accumulated data.

Q. Does the local Medicare carrier employ individuals to assist me or my staff?

A. Most carriers do have individuals who will come to your office to assist you, and who will also conduct training and informational seminars for your office staff. The address of the carrier for your area can be obtained from your state medical society or the local office of the Health Care Financing Administration.

Mark Your Calendar

Connecticut State Medical Society
190th Annual Meeting

Annual Meeting of the House of Delegates
Wednesday, May 26, 1982 — 12:30 P.M.
Parkview Hilton Hotel, Hartford

General Scientific Program
Thursday, May 27, 1982
Parkview Hilton Hotel, Hartford

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Trends in Respiratory Therapy

CONGRESSIONAL OFFICE OF TECHNOLOGY ASSESSMENT

A Case Study

The Congressional Office of Technology Assessment (OTA) has released a case study which presents an analysis of the costs and effectiveness of different methods of respiratory therapy, particularly intermittent positive pressure breathing therapy. The case study also examines trends in the use of various respiratory therapy treatments in the Washington, D.C. area from 1976-1979.

The case study is one of 17 that comprise Background Paper #2 to OTA's assessment of "The Implications of Cost-Effectiveness Analysis of Medical Technology." The overall project was requested by the Senate Committee on Labor and Human Resources, and the case study was requested by the Senate Committee on Finance. The case study was prepared for OTA by Dr. Richard M. Scheffler of the School of Public Health at the University of California at Berkeley, and Dr. Morgan Delaney of the Department of Medicine at the George Washington University Hospital in Washington, D.C.

There has been a phenomenal growth over the last 20 years in both the number and size of respiratory therapy departments within U.S. hospitals. These departments provide four major types of therapy: 1) oxygen, 2) aerosol, 3) chest physiotherapy, and 4) mechanical breathing devices, including intermittent positive pressure breathing therapy.

According to the case study, some data indicate that between 25 and 30 percent of all patients admitted to hospitals during the 1970's received respiratory therapy. One-fourth of these patients were given intermittent positive pressure breathing (IPPB) therapy—the use of a machine that pumps air into the lungs at rhythmic intervals—making IPPB the most widespread method of treatment. However, many comparative studies have concluded that IPPB is not more effective than simpler and less costly treatments.

Furthermore, the case study's survey of five teaching hospitals in the Washington, D.C. area, revealed a sharp decrease from 1976-1979 in the use of IPPB treatments. The trend has been in the direction of using less costly methods of treatment, and this seems to have occurred without government regulation and without planning.

Respiratory therapy is most often delivered to patients undergoing surgery involving the chest or upper abdomen, and to patients with serious bronchial tube diseases such as emphysema, chronic bronchitis, asthma, and bronchiectasis. These diseases constituted the sixth leading cause of death in the United States in the 1970's.

The effectiveness of mechanical breathing devices, such as IPPB machines, in saving the lives of critically ill patients, i.e., those suffering from paralysis of the respiratory muscles or chest wall injuries, has been well established. However, for some other purposes, IPPB does not appear to be more effective than other treatments.

For example, IPPB therapy often is used to deliver an aerosol medication into a patient's lungs to treat bronchial infections. Two other devices—the ultrasonic nebulizer and the simple aerosol generator—have been found to be just as effective as an IPPB machine for aerosol therapy.

IPPB therapy also is used to prevent lung collapse, especially during the postoperative period when the patient's breathing is hindered by anesthetic, medication, or pain. An alternative device is the incentive spirometer, which requires the patient to breathe deeply and thus raise a plastic ball in the vacuum created. According to the case study, in some instances the spirometer has been shown to be more effective than an IPPB machine.

This case study has been prepared by the Office of Technology Assessment, established by the U.S. Congress as a resource to its members.

The OTA case study, "Assessing Selected Respiratory Therapy Modalities: Trends and Relative Costs in the Washington, D.C. Area," is available at the U.S. Government Printing Office (GPO), Superintendent of Documents, Washington, D.C. 20402. The GPO stock number is 052-003-00843-2; the price is $2.50.

In its analysis of trends in the use of different respiratory therapy methods, based on data from the Washington, D.C. area, the case study found that the number of IPPB treatments per 100 admissions decreased about 70 percent, and ultrasonic nebulizer treatments approximately 75 percent. On the other hand, the number of simple aerosol treatments increased over 300 percent, and incentive spirometry treatments more than 100 percent.

Respiratory therapy patients usually require multiple treatments. The case study's relative cost estimates indicate that for followup treatments, the incentive spirometer and the simple aerosol generator are substantially less costly than both the IPPB machine and the ultrasonic nebulizer.

As an illustration of possible cost savings due to the increased use of less costly treatments, the case study estimates that the substitution of simple aerosols or incentive spirometers for half of the decrease in IPPB could produce annual cost savings of approximately $400,000 for hospitals in the Washington, D.C. area. However, the accuracy of this estimate and the possibility of other cost-effective substitutions between treatment methods requires further study.

OTA is a nonpartisan congressional support agency which analyzes complex issues involving science and technology for both Senate and House committees. OTA does not advocate particular policies or actions.

CSMS Auxiliary Schedules Adolescent Stress Conference
March 31, 1982
9:00 AM—3:30 PM—Hotel Sonesta, Hartford

A vast amount of information is bombarding the youth of our state through the media, through underground publications, through every day conversations, etc.

Our young people have to deal with unbelievable pressures from their peers, from their families, from their schools and other sources.

They are caught up in a world of changing values.

Although they may be the most sophisticated generation in the history of the world, they are for the most part bewildered and in need of understanding.

In attempting to answer this need the Auxiliary to the Connecticut State Medical Society is sponsoring a one day seminar March 31, 1982, from 9:00 A.M. to 3:30 P.M. at the Hotel Sonesta, Hartford.

Guest speaker will be Joseph Horton, Ph.D., Clinical Psychologist with Psychological Associates. His topic will be "NORMAL ADOLESCENCE-VARIATIONS ON A THEME."

Following a luncheon break four workshops will be conducted. Each workshop will be offered twice.

"Depression in Adolescents," with Theodore Zanker, M.D., Medical Director, Hall-Brooke Hospital.

"Adolescent Eating Disorders—Obesity" Anorexia and Bulimarexia conducted by Alfred Herzog, M.D., Assistant Director, Dept. of Psychiatry, Hartford Hospital.

"Trauma of Divorce" with Bland Maloney, ACSW Director Family Therapy, Partial Hospital Service, Hartford Hospital.

"Alcohol and Drugs" conducted by Peter Zimmer, Director of New Directions—an alcohol and drug counseling center for adolescents and their families.

— Registration fee $15.00 including lunch —

Phone reservations: Mrs. John Beakey 1-529-4979
Mrs. Gerald Sandler 1-423-3513

Current Medicolegal Issues

THE CITATION—AMA

Hospital Negligent in Granting Surgical Privileges to Physicians

A hospital was negligent in granting orthopedic surgical privileges to a physician, the Wisconsin Supreme Court ruled.

On July 11, 1975, the physician unsuccessfully attempted to remove a pin fragment from the patient's right hip. During the course of the surgery, the patient's common femoral nerve and artery were damaged, causing a permanent paralytic condition of his right thigh muscles with resultant atrophy and weakness and loss of function.

Fifteen months later the patient filed suit against the operating physician and the hospital. The physician settled the claim for $140,000, and the patient proceeded with his action against the hospital. The claims against the hospital charged it with negligence in allowing the physician to perform orthopedic surgery.

A jury found the hospital negligent in granting privileges to the physician and apportioned 80 per cent of the causal negligence to the hospital. Damages were awarded in the sum of $405,000 for past and future personal injuries and impairment of earning capacity. An appellate court affirmed.

On appeal, the Supreme Court affirmed the decision and agreed that the evidence supported a finding of the hospital's negligence. A hospital owes a duty to its patients to use due care in the selection of its medical staff and the granting of specialized surgical privileges. The court said that in investigating medical staff applicants a hospital, at a minimum, should: require completion of the application and verify accuracy of applicant's statements, especially those pertaining to his medical education, training and experience; solicit information from applicant's peers, including those not referenced in his application, who are knowledgeable about his education, training, experience, health, competence and ethical character; determine if he is currently licensed to practice in the state and if his licensure or registration has been or is currently being challenged, and inquire whether applicant has been involved in malpractice actions and whether he has lost medical organization membership or medical privileges at any other hospital.

The hospital failed to perform these minimal requirements and its negligence caused the patient's injuries, the Supreme Court concluded.—*Johnson v. Misericordia Community Hospital,* 301 N.W. 2d 156 (Wis. Sup. Ct., Jan. 6, 1981)

Editor's Note: A prior decision in this case was reported in THE CITATION, Vol. 42, No. 3, p. 27.

Parents Cannot Recover for Healthy Child Born After Vasectomy

Parents could not recover for the normal expenses of rearing and educating a healthy child conceived after a vasectomy, a New York appellate court ruled.

The father underwent a vasectomy in 1978. In the malpractice complaint against the operating physician the parents alleged that the vasectomy was performed carelessly and that as a direct result the mother gave birth to an unplanned child. A trial court dismissed the causes of action seeking to recover the cost of caring for and educating the child and to recover the mother's loss of potential future earnings.

On appeal, the court acknowledged that the parents had a cause of action for the birth of the child caused by the physician's negligence. However, the question of which elements of damages could be recovered divided the court. The majority ruled that the father could recover for the medical expenses for the care and treatment of his wife during pregnancy and delivery and for loss of consortium. The mother could recover for the physical injury and pain occasioned by her unanticipated pregnancy, the court added.

To hold the physician responsible for the cost of future care of a healthy normal child based on the

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THE CITATION is a newsletter on medicolegal issues prepared by the Office of The General Counsel of the American Medical Association.

parents' decision not to abort the unplanned pregnancy was to inflict a penalty on the physician that was out of proportion to his wrong, the court said. It was one thing to tote up the medical bills and assess damages against a physician for extraordinary unanticipated expenses resulting from the preventable birth of a defective child. It was quite another to assess him for the myriad costs of raising a normal, healthy child to age 21, the court concluded. The trial court's judgment was affirmed.

A dissenting judge cited cases in other jurisdictions sustaining claims for the costs of rearing and educating a child.—Sorkin v. Lee, 434 N.Y.S. 2d 300 (N.Y. Sup. Ct., App. Div., Dec. 23, 1980)

Obstetrician Held Not Liable in Second Trial

Editor's Note: The following summary is a re-write and correction of a summary that appeared in the March 15, 1981 issue of THE CITATION, Vol. 42, No. 11, p. 123.

After a second trial of a malpractice suit against an obstetrician, final judgment was entered for the obstetrician.

The obstetrician was sued by a patient who suffered cerebral palsy allegedly due to oxygen deprivation during his birth. The patient's mother was admitted to a hospital on May 17, 1973, with mild labor contractions. The mother's obstetrician administered an oxytocic drug to force the baby's head down into the pelvic canal. A second injection was administered about an hour later. An attending nurse recorded an observation of meconium a short time later. Three hours after the second injection a third dose of the oxytocic drug was administered. A few minutes later she was taken to the delivery room with a completely dilated cervix. The physician administered a fourth dose of an oxytocic drug, using a vacuum extractor and forceps, delivered the patient.

His APGAR score was one. He had marked molding of the head and had a number of seizures while still in the hospital. In the summer of 1974, he was diagnosed as having spastic quadriparesis and ataxic cerebral palsy. He had paralysis in all four limbs and abnormal reflex patterns.

A jury awarded the patient $1.5 million in damages, but the trial court set aside the verdict as excessive and granted a new trial on all issues. At the second trial final judgment was entered for the obstetrician.

In affirming the trial court's decision to grant a new trial, the Virginia Supreme Court held that the trial court did not abuse its discretion in granting a new trial.—*Rutherford v. Zearfoss,* 272 S.E. 2d 225 (Va. Sup. Ct., Nov. 26, 1980)

Physician Convicted of Tax Evasion

A trial court did not err in convicting a physician of federal income tax evasion, a federal appellate court in Virginia ruled.

The physician inherited her medical practice from her deceased brother. The tax returns she filed for 1972, 1973 and 1974 understated her income by about $120,000 and her tax liability by about $31,000. At trial she asserted inadvertence as her defense. She claimed she had nothing to do with preparing her tax returns because she cared nothing for money and chose, instead, to devote her time to the demanding needs of her patients. She produced seven character witnesses who testified to her honesty, compassion and the busy nature of her practice.

The IRS called as a witness an auditor who had investigated the physician's billings for Medicaid services for 1976-78. His study showed that she had reported four times as many services per patient as other Virginia physicians. During cross-examination the government attorney asked her, "Who would have received the benefit of all the fraudulent forms for Medicaid that were filed?" Her attorney objected and moved for a mistrial because use of the word "fraudulent" unduly prejudiced the jury. The trial judge overruled the motion, directed the government's attorney to rephrase the question and gave the jury a cautionary instruction.

On appeal, the appellate court affirmed the conviction. The testimony by the auditor was admissible, not to prove tax evasion, but as evidence of another crime to prove preparation, plan, knowledge, absence of mistake or accident, etc., the court said. The unfortunate use of "fraudulent" Medicaid forms was sufficiently corrected by the trial judge's actions that risk of prejudice was adequately removed, the appellate court said.—*U.S. v. Johnson,* 634 F. 2d 735 (C.A. 4, Va., Nov. 12, 1980)

Charging Interest on Over-Due Accounts

AMA JUDICIAL COUNCIL

Resolution 45 of the 1981 annual meeting asking the Judicial Council to review its statement on penalties for over-due accounts in view of current economic conditions, was referred to the Judicial Council by the House of Delegates. Resolution 94, asking that the AMA adopt the policy position that the use of finance charges on unpaid bills or notes be left to the determination of county or state medical societies and that patients be notified in advance of the existence of finance or service charges on unpaid bills, was also referred to the Judicial Council. The resolutions were considered together by the Judicial Council in reviewing its current statements on the charging of interest on over-due accounts and finance or service charges on unpaid bills.

Section 6.07 of *Current Opinions of the Judicial Council—1981* states:

> It is not in the best interest of the public or the profession to charge interest on an unpaid bill or note, or to charge a penalty on fees for professional services not paid within a prescribed period of time, or to charge a patient a flat collection fee if it becomes necessary to refer the account to an agency for collection.
>
> It is not improper, however, for a physician to add a service charge, equal to the actual administrative cost of rebilling, on accounts not paid within a reasonable time. The patient must be notified in advance of the existence of this practice.

The supporters of Resolutions 45 and 94 believe that changes in economic and business practices warrant a review of Section 6.07 by the Judicial Council. The Judicial Council has completed that review. The Judicial Council is aware that the practice of medicine is not immune from the economic rigors of contemporary society. Adapting efficient business practices to a professional practice may be advantageous, but it is sometimes difficult.

When the House of Delegates considered interest charges and service charges for rebillings in 1974 and 1978, the Judicial Council statement was reaffirmed. Current high interest rates and increasing cash-flow problems have renewed the concerns of physicians who believe that the business practices prevalent in any community should be equally applicable to the billing and collection practices in the professions. There are, however, additional concerns that are applicable to the provision of essential medical services and public perceptions relating to the high cost of such services.

The Judicial Council would also like to point out that certain legal concerns govern the use by physicians of interest or finance charges for delinquent accounts. The patient must be informed sufficiently in advance of receiving services that such charges are a part of the contractual agreement between the physician and the patient. Otherwise, the additional charges are not enforceable as a part of that contract.

Physicians who wish to add interest or finance charges to billing statements of delinquent accounts need to become familiar with any applicable requirements in the Federal Truth in Lending Act and in state usury statutes, if any, and comply with such requirements. Disclosure statements must be included on the billing statement in order to comply with the Federal Truth in Lending Act under some circumstances. If the physician discusses his or her charges in advance with each patient, exceptions should be made for hardship cases or when appropriate if the patient asks to defer payment.

The Judicial Council believes that interest or finance charges should not be billed if a second billing statement goes out because of a delay in receipt of third-party payment that is not the fault of the patient. A patient should not have to pay interest or finance charges due to delayed payment practices of an insurance carrier, for example.

After reviewing these issues, the Judicial Council agrees that Section 6.07 of *Current Opinions of the Judicial Council* should be revised to read:

> Although harsh or commercial collection practices are discouraged in the practice of medicine, a physician who has experienced problems with delinquent accounts may properly choose to request that payment be made at the time of treatment or add interest or other reasonable charges to delinquent accounts. The patient must be notified in advance of the interest or other reasonable finance or service charges by such means as the posting of a notice in the physician's waiting room, the distribution of leaflets describing the office billing practices and appropriate notations on the billing statement. The physician must comply with state and federal laws and regulations applicable to the imposition of such charges. The Judicial Council encourages physicians who choose to add an interest or finance charge to accounts not paid within a reasonable time to make exceptions in hardship cases.

EDITOR'S NOTE: This is a report of the AMA Judicial Council to the House of Delegates at its Annual Meeting in 1981.

Month in Washington

The Medicaid program would be federalized and responsibility for some $47 billion worth of now federal programs would be shifted to the states in a dramatic proposal for governmental realignment called for by President Reagan in his State of the Union address.

The President said that starting in fiscal 1984 (a year from next October), the federal government "will assume full responsibility for the cost of the rapidly growing Medicaid program to go along with its existing responsibilities for Medicare."

At the same time the President advanced a "bold, innovative program" of returning some $47 billion of federal programs to states and localities over a 10-year period.

"As part of a financially equal swap, the states will simultaneously take full responsibility for such programs as Aid to Families with Dependent Children (AFDC) and food stamps. This will make welfare less costly and more responsive to genuine need because it will be designed and administered closer to the grass roots and the people it serves."

Complete details of the program shifts won't be known for a while. But it is known that the following health related programs will be turned over to state jurisdiction: Child Nutrition, Child Welfare, Child Abuse, Social Services Block Grant, Prevention Block Grant, Alcohol, Drug Abuse & Mental Health Block Grant, Primary Care Block Grant, Maternal & Child Health Block Grant, Primary Care Research & Development, Black Lung Clinics, Migrant Health Clinics, Family Planning, Women, Infants & Children (WIC).

Other programs that apparently would revert to the states include school lunch program, vocational rehabilitation, energy aid for the poor, water and sewer grants, aid for highways outside the interstate system, block grants for social services and community services, and others.

"In a single stroke, we will be accomplishing a realignment that will end cumbersome administration and spiraling costs at the federal level while we ensure these programs will be more responsive to both the people they are meant to help and the people who pay for them," President Reagan told Congress.

Under the swap, the federal government will apply the revenue from certain excise taxes to a grass-roots trust fund for the states. Some $28 billion a year will flow into the fund. By 1988 the states would be in complete control of more than 40 federal grant programs. The trust fund would start to phase out and the excise taxes would be turned over to the states.

The states would be given wide leeway on how to use their share of the trust fund. They could use it to pay for federal grants in areas such as transportation, education and social services; or they could use it for other purposes.

Both Medicaid and Medicare were marked for economies by the President who pointed to these programs in declaring that he will propose savings of $63 billion over four years in entitlement programs.

No specific dollar savings were mentioned for the two health programs, but the Administration has been considering slashes totaling $5 billion a year.

Medicare and Medicaid are programs, "with worthy goals," said President Reagan, but "their costs have increased from $11.2 billion to almost $60 billion, more than five times as much, in just over 10 years."

Said the President:

"Waste and fraud are serious problems. Back in 1980, federal investigators testified before one of your committees that 'corruption has permeated virtually every area of the Medicare and Medicaid health care industry.'

"One official said many of the people who are cheating the system were 'very confident that nothing was going to happen to them.'

"Well, something is going to happen. Not only the taxpayers are defrauded. The people with real dependency on these programs are deprived of what they need because available resources are going not to the needy but to the greedy. The time has come to control the uncontrollable."

Among the cuts the Administration is expected to recommend for Medicare and Medicaid are a flat two percent reduction in the Medicare reimbursement rate for hospitals; a limitation of five percent in the rise for the physicians' fee screen; a reduction to 80 percent of Part A, the usual and customary reimbursement for hospital-based physicians; limitation of physician reimbursement for services in hospital outpatient departments; elimination of the subsidy for private hospital rooms; indexing of the Medicare Part B physicians services deductible to the Consumer Price Index, and mandatory enlistment of the federal work force in the Medicare program.

Explaining the need for transferring programs to the states, the President cited "the overpowering growth of

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Prepared by the Washington, D.C.
Office of the American Medical Association

federal grants-in-aid programs during the past few decades."

In 1960, he said, there were 132 categorical grant programs costing $7 billion. Today there are about 500 programs costing almost $100 billion.

"Neither the President nor the Congress can properly oversee this jungle of grants-in-aid; indeed, the growth of these grants has led to a distortion in the vital functions of government . . ."

One intergovernmental commission, President Reagan noted, has said that the growth of grants-in-aid has made the federal government "more pervasive, more intrusive, more unmanageable, more ineffective, more costly and above all more unaccountable."

The fate of the President's proposals in Congress is uncertain. Democrats were indicating they may put up stiff resistance. The November elections are only months away, and the controversial, sweeping nature of the proposals will set off a prolonged debate that might spill over into the next session of Congress.

* * * *

The American Medical Association joined health providers and insurers, organized labor, and business in formally endorsing the concept of voluntary local coalitions to tackle the problems of health care costs, quality and access.

The unprecedented gathering of major national organizations representing all aspects of health care to agree on common goals was announced at a news conference here attended by principal officers of the organizations.

The withdrawal of federal funding in health and the new emphasis on private solutions was cited by Harvard U. Prof. John Dunlop, coordinator of the national coalition effort, as major factors in the encouragement of coalitions.

The six organizations "seek to encourage and to assist the efforts in a growing number of local communities in which local affiliates of the national organizations have voluntarily joined together to put into effect common programs for utilization review, facility and technology review and planning, and other activities most appropriate to the particular locality to restrain cost increases while recognizing an appropriate concern over quality and access to health care," Dunlop told reporters.

In addition to the AMA, organizations involved are the American Hospital Association (AHA), the AFL-CIO, Blue Cross and Blue Shield Associations, the Health Insurance Association of America (HIAA) and the Business Roundtable.

Noting that the AMA has been responsible for developing 25 of the present 70 coalitions, AMA Executive Vice President James Sammons, M.D., told the news conference the primary focus of coalitions is to determine what the problems of the local area are and to come up with programs for dealing with them. He described the coalition movement as "a totally different" activity than the Voluntary Effort (VE) which is a national program to restrain cost rises.

Dr. Sammons said the AMA opposes federal health planning but believes that voluntary planning at the local level "is necessary and desirable."

The AMA long has recommended experimentation with health insurance benefit packages through such steps as removing mandatory hospitalization for patients to receive benefits and requirements for care in specific types of institutions, Dr. Sammons said. "All of us must look at changes in benefit packages that can be productive."

* * * *

The AMA has argued before the Supreme Court that when professionals advance their ethical standards for the benefit of patients the government should encourage the effort, not hinder it.

The Justices were urged in a hard-hitting, one-hour oral argument to reject the Federal Trade Commission's actions against the AMA's ethical restrictions against misleading advertising.

The FTC should have given the AMA a medal instead of a long and tedious trial, said AMA counsel Newton Minnow. He noted that the AMA was the first professional organization to rewrite its ethical codes following the Supreme Court's historic 1975 decision rejecting a state bar association's fee standard.

The new AMA code limited the restrictions against physician advertising to make unethical only advertising that is false, misleading or deceptive.

But the FTC didn't pay attention, said Minnow. The agency is obsessed with the past, unconcerned with the present and blind to the future, the lawyer said.

Dismissing the FTC conspiracy charge as "nonsense," the AMA attorney said the agency is determined to "press for its pound of flesh" despite the AMA's compliance. The AMA's warnings to the FTC of the impact of improper advertising on patients went unheeded, he said.

It was wrong of the FTC not to even look at the AMA's current standards, he said. The protection of the public is at stake, Minnow said. "If a doctor advertises that he cured his last 25 patients, we think that is false and misleading. We are dealing with health, life and safety." Why should the government try to stop guidelines intended to protect and benefit the public, asked the Chicago lawyer?

* * * *

The AMA has been granted a $300,000 physician placement contract to help the National Health Service Corps (NHSC) place Private Practice Option (PPO) physicians in communities suited to them.

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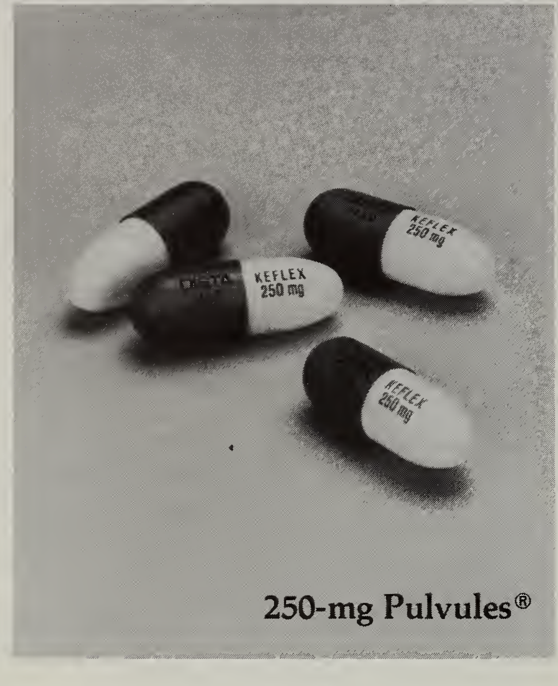

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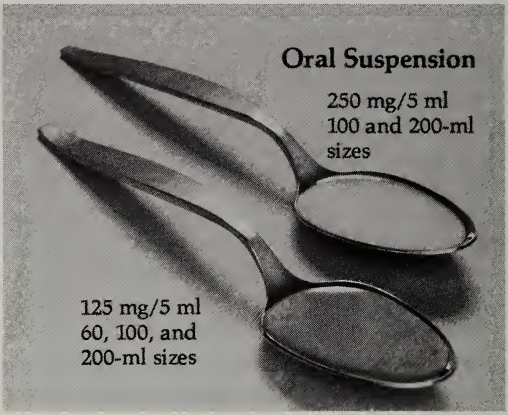

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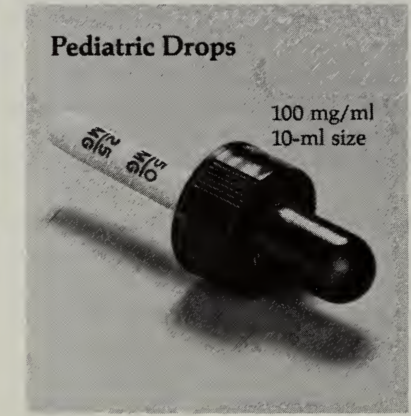

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The President's Page

Nurses

I imagine that Florence Nightingale was more a dreamer and idealist than a businesswoman. It is evident that for generations those who followed her visionary lead were inclined to put service before self in discharging their sincerely held belief: service to mankind.

Over the past 40-45 years the role of the nurse has expanded tremendously in the clinical setting while her/his economic gains have been of a smaller order. From her/his humble origins as a withdrawing member of a team totally dominated by physicians the nurse has now forged a dominant place in the total care of patients. No modern hospital would enjoy the universal quality of care now expected by society without its cadre of highly trained and dedicated nurses.

Compare the nurse of 1982 with those of a half-century ago. They have taken over a myriad of the chores once associated only with physicians. From I.V. therapy to the administration of esoteric drugs, from lab procedures to complicated bed-side dressings and procedures, the nurse has stepped into vacuum after vacuum filling desperate needs carefully and well while freeing physicians for greater productivity and, therefore, higher economic gains. It is certain that the nurse has been greatly responsible for a great deal of our learning, security, comfort and reasonably high standard of living.

It seems important, therefore, that we give something back. In this era with its shortage of trained nursing personnel we must become involved in analyzing why this important profession is not as popular as it once was; why its graduates chose to leave its challenges. I'm convinced that its more than the continuous stress of the ICU/CCU portfolio they carry; more than the interface with temperamental physicians on the wards and in the operating suite.

In my opinion the problem is quite simple: Nurses are demanding (and should) greater respect, greater dignity and a fairer share of the economic pie now enjoyed disproportionately by physicians and other members of the Allied Health Team. There is no question in my mind that the nurse in her/his role is fully as valuable as the technicians and the therapists and the bookkeeper in the modern hospital setting. We physicians must reaffirm our reliance on the nurse. We physicians must get involved in innovative and creative ways of redefining the nurse's role both as colleague and wage earner. No nurse should be forced to strike against a system she virtually holds erect on her/his shoulders without having physicians as friends in court. In our state let the slogan be that the nurses are our full partners in the care of the sick.

P.S. A successful recent 28 day stint in an ICU and surgical ward reinforced the author's long-felt gratitude for what the nurse represents in our society.

Andrew J. Canzonetti, M.D.
President

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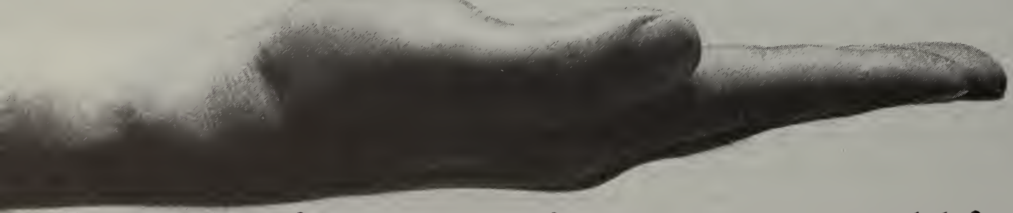

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Reflections from the Dean's Office

Robert Koch, 1843-1910

ROBERT U. MASSEY, M.D.

The captain of all these men of death that came against him to take him away, was the Consumption, for it was that that brought him down to the grave.
—John Bunyan

On the evening of 24 March 1882, at the meeting of the Berlin Physiologic Society, Robert Koch delivered an address entitled simply "Über Tuberculose." The audience, we are told, was spellbound, so moved that there were neither questions nor applause. Paul Ehrlich recalled it as "my greatest scientific event." Koch had incontrovertibly demonstrated that the tubercle bacillus was the causative agent of tuberculosis, a disease at that time responsible for 300 deaths per 100,000 throughout most of Europe and the United States, accounting for one-fourth to one-third of all deaths during the 19th century.

A hundred years is not long, less than two percent of historic time. Some of our grandfathers might have remembered the headlines. Rene and Jean DuBos describe the response:

> "The heretofore unseen killer was now visible as a living object, and its assailants at last had a target for their blows. In Europe and America, Koch became the pope of medical science. In Japan, a new shrine was dedicated to him as to a demigod."[1]

His paper, published the next month in the *Berliner klinische Wochenschrift,* contained the first statement of "Koch's postulates"; this was the strategy he had used to prove that the tubercle bacillus was indeed the agent which caused this disease. Only a year before, in their textbook, Austin Flint and William H. Welch had declared their belief in the non-communicability of tuberculosis.

Like so much that is common, tuberculosis received little recognition from medicine during most of the 19th century. Yet, in spite of bleedings and starvings, closed windows and opiates, the death rate had fallen from 500 per 100,000 in 1800 to 150 per 100,000 in 1900. There was less overcrowding and better nutrition in the last half of the century; industrialization had improved the economy in Western Europe and America. Jean Villemin showed in 1865 that tuberculosis could be passed from man to animal and, by repeated inoculation, from animal to animal; it took Koch's photomicrographs, however, to convince physicians that consumption was contagious.

Tuberculosis mortality continued to fall after 1900 to less than one per 100,000 in Massachusetts last year. The decline was not interrupted except for two peaks during the world wars; the introduction 30 years ago of streptomycin, isoniazid, and PAS was barely noticeable on the graphs.

Tuberculosis had been as much a part of the 19th century as Queen Victoria herself. Keats died of consumption at 26; Shelley was in Italy hoping to heal his disease when he drowned sailing his boat, the *Ariel,* at 30. Goethe had a weak chest and coughed blood but lived to 83; Emerson's father died of tuberculosis, and Ralph Waldo and his three brothers all had consumption. Robert Louis Stevenson's creative genius was somehow associated with his tuberculosis, and Thomas Mann's novel, *The Magic Mountain,* was inspired by his visit in 1912 to the sanatorium at Davos where his wife was taking the lung-cure.

Osler, in his textbook, quoted the German axiom, *Jedermann hat am Ende ein bischen Tuberculose,* and indeed almost everyone did have it. In early 19th century workhouses, most of the children were scrofulous; in my medical school class positive skin reactions exceeded 80 percent, and three students dropped out because of pulmonary tuberculosis.

Eliminating the "White Plague" from the west is one of medicine's triumphs, yet we still do not know quite how it happened. Koch convinced those who doubted that phthisis was contagious; public health measures clearly had their good effect, but the death rate was already falling. Collapse therapy seemed to hasten recovery, but not until 1952 was there the means in hand to deliver the final blow; by then the job was almost done. Curiously, both Squibb and Hoffmann-LaRoche had brought forth isoniazid at the same time, and then discovered that two German chemists had synthesized it in 1912.

The history of tuberculosis provides a text for many sermons; however, this month should be set aside to honor Robert Koch. He concluded his lucid paper with this affirmation of faith in the fruits of research:

> "When the conviction that tuberculosis is an exquisite infectious disease has become firmly established among physicians, the question of an adequate campaign against tuberculosis will certainly come under discussion and it will develop by itself."

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ROBERT U. MASSEY, M.D., Professor and Dean, School of Medicine, University of Connecticut Health Center, Farmington.

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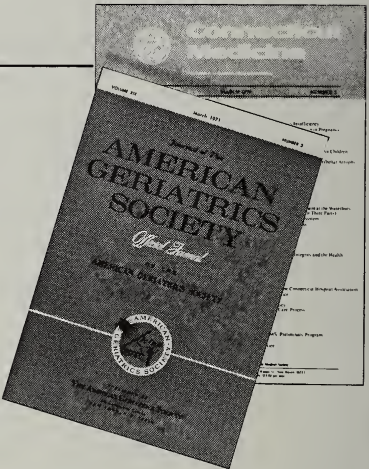

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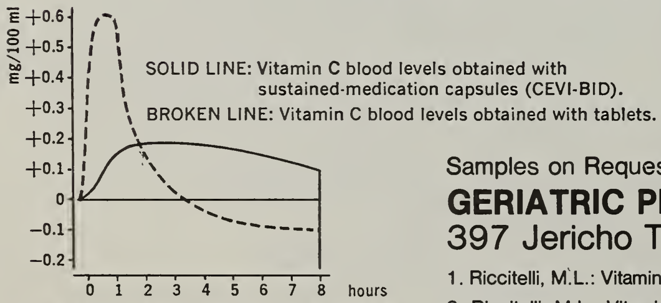

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Connecticut Medicine

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EDITORIALS

As I See It

In this day and age, when "big bucks" can easily be spent quite rapidly on a project, it is good to be able to look back on an expenditure and say that the money was well spent.

I am referring to the $201,000 that the Connecticut State Medical Society has spent over the last two years to study the professional liability needs of Connecticut physicians to obtain a charter, and to establish the necessary mechanism for a physician owned company. This expenditure by the State Society has been and will continue to be of assistance to all Connecticut physicians, and especially to FCMA-CSMS members.

First of all, the pursuit of a charter to allow the formation of a physician owned company demonstrated to Aetna that CSMS physicians were going to aggressively attack the problems surrounding the availability of liability insurance.

Secondly, the fact that the Connecticut General Assembly voted CSMS a charter attracted the attention of CNA from Chicago and resulted in the entrance of this large commercial carrier into the Connecticut market with competitive rates for liability coverage.

This competition will allow CSMS physicians time to see what an experienced liability carrier can do in a state that has had only one carrier (Aetna) for almost 10 years.

Fairfield County physicians can say that the CSMS $201,000 expenditure helped save our Fairfield colleagues over $3,825,000. This can be explained as follows: FCMA physicians paid CNA approximately $6,500,000 in premiums for 1981-82 coverage that would have cost approximately $10,340,000 if the same coverage had been purchased from Aetna. This is an average savings of $3,947 for each of the 969 FCMA physicians who purchased CNA coverage.

The return on our $325 annual CSMS-FCMA dues is remarkable! But, we cannot sit back and feel that everything is "just fine." We have to be alert to ways of improving the malpractice climate in Connecticut. We must be ready to take the dormant physician-owned insurance company off the shelf in short order if the need arises.

Members must not become complacent, but must continue to help the legislature to adopt other measures to control malpractice awards; such as, adopting the collateral sources rule, as in New York State, and annual payments rather than lump sum settlements.

Most important, the use of care and good judgment, along with good relations, in the treatment of patients will reduce malpractice suits.

John J. Sullivan, Jr., M.D.
President, Fairfield County Medical Association
Dr. Sullivan is in the private practice of psychiatry in Stamford, CT
Courtesy of FCMA *News Capsule.*

Coalitions for Health Care: Can They Succeed?

Addressing the House of Delegates at its Interim Meeting, Daniel T. Cloud, M.D., President of the American Medical Association, recalled his admonition in his inaugural speech "that the agenda of the Profession include innovative and dynamic cost programs." Noting that "the need for strong leadership to contain costs and to promote an effective national policy on the cost of medical care is now even more urgent," Dr. Cloud warned, "if we do not lead the private sector in cost-containment, we will have that initiative taken from our grasp."

In no way does this warning imply that the AMA has not been actively involved in efforts to contain the cost of medical care. Sponsorship by the AMA of a study (1976-77) by the *National Commission on the Cost of*

Editorials are expressions of personal opinion and do not necessarily reflect the policies of CSMS.

Medical Care, a multi-disciplinary group, provided a major contribution to the understanding of the socio-economics of medicine. Cognizant of the fact that a multiplicity of factors play a role in the cost of health care, the AMA several years ago joined other concerned groups in pilot studies of local health care systems to establish a base for promoting the most cost-effective methods. Early surveys had found that physicians' fees, contrary to popular belief, represent a relatively small portion of overall expenditures. The rise in overall costs of health care in 1980, and currently, stems largely from higher hospital staff wages and greater intensity of services. Increasing patient demands concommitant with advances in technology, while of great benefit, add significantly to the costs. For this reason, the AMA's Council on Scientific Affairs has initiated a system of consensus evaluation of the cost-effectiveness of selected technologies by Ad Hoc Panels comprised of members with expertise in the field under investigation. Hopefully, these conferences will identify those techniques which are ineffective and outmoded. These are only a few examples of the AMA's attempts to meet the cost problem.

There are good reasons to heed Dr. Cloud's warning. It is evident that recent changes in the socio-economic environment in which our health care system operates are presenting the Profession with new challenges if high quality health care is to be maintained. Prominent among these is the impact of the New Federalism which shifts many burdens to the states and local communities. Reduced by an overall cutback approximately 25%, Federal funds will be allotted to each state, subject to the discretion of its Governor, as Block Grants. With the exception of funds earmarked for specific categories with "caps," State Departments of Public Health will compete with other agencies to share the remainder of available Federal dollars and presumably will be responsible for planning and assistance in local programs of care. Where adequate funds are not included in current state budgets, other sources of money must be found if present programs of health care primarily in the public sector, but with significant overlapping with the private sector, are to be continued.

Measures proposed to correct inefficiency or mismanagement have obvious value. Deregulation procedures designed to eliminate duplication of supervision and unessential demands on institutions, such as nursing homes, can be cost-saving without inviting neglect of maintenance, inattention to safety precautions and lack of competent personnel. The possibility of obtaining sufficient funds by voluntary private sector contributions of Foundation grants to replace the deficit is questionable. The alternative of procuring additional revenue by increasing taxes is unpalatable for most Governors.

Without adequate financial support, it is feared that the result will be sacrifice of quality of care, reduction of services, and potential bankruptcy among institutions serving a mix of patients, overweighted by Medicaid clients and others, who do not pay full costs while their demands for utilization of facilities and services exceed the average. That the deficit caused by this differential in payments can continue to be absorbed by patients in the private sector and gaps in patient care can be filled by a resurgence of voluntarism is unsure. It may no longer be possible to provide a single level of care when reimbursement for government programs (Medicaid) is insufficient.

Confronted with these circumstances, it is likely that some states will be less capable than others of maintaining even essential programs of health care. Nevertheless, in a nation such as ours, with a highly mobile population and extensive transmigration of patients across state and county boundaries, areawide minimal standards and regionalization for optimal distribution of facilities and access to special care are essential. The nation can ill afford to risk the hazards of permitting islands of communicable disease to exist.

Recognizing the advantages of a comprehensive and cooperative effort to achieve maximum cost-effectiveness in the field of health care, the House of Delegates authorized the AMA to extend its involvement in the formation and activities of *Coalitions for Health Care.* These groups of voluntary organizations are being established for the purpose of "analyzing local health care systems and to seek effective cost-containment practices with emphasis given to preserving quality medical care." *Coalitions for Health Care,* as constituted at present, include physicians, insurers, hospital administrators, business and labor leaders, and other concerned public and private groups.*

A "business-oriented" group, from a different perspective, may uncover ways to cut costs without the jeopardy of impairing quality medical care. Good care may not require "frills" such as a TV in every room or special birthing rooms. As airlines have discovered, people are willing to forego unessential amenities when the fare is less. The medical profession is committed to provide "first-class health care" for all, but need that be synonymous with "luxury health care"? While attempts to search out relative values in health care continue, the question remains: Is the public willing to accept measures dictated by the need for austerity? This movement may not be "just what the doctor ordered," but at present a cooperative, voluntary effort by Coalitions for Health Care appears to be a step in the right direction. The potential value is great.

Orvan W. Hess, M.D.
Delegate to the AMA

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*American Hospital Association, American Medical Association, Blue Cross-Blue Shield Associations, The Business Roundtable, Health Insurance Association of America, American Federation of Labor and CIO.

Letters to the Editor

Letters to the Editor are welcomed and will be published, if found suitable, as space permits. They must be signed by all authors, typewritten in double spacing (including references), submitted in duplicate, must not exceed 1½ pages in length and will be subject to editing and possible abridgment. To be considered for publication, letters referring to a recent *Journal* article should be received within six weeks of the article's publication date.

FROM THE BOONDOCKS TO *CONNECTICUT MEDICINE*

To the Editor: Hiring a marketing consultant for a medical practice can be a shocking idea to tradition oriented physicians like me, so it is not surprising that I find myself looking for ways to determine lunacies in the result. They are not all that hard to find, so perhaps it is not just my bias asserting itself.

Recently, I read of a marketing consultant advising his client (at a fancy fee that will have to be amortized into the cost of medical care) to send flowers to patients who refer others, hold jogging clinics, see patients on time, and arrange early morning, late evening and Saturday hours for patient convenience.

As to sending flowers, this is such a patent act of bribery that I reject it out of hand, and can easily imagine someone switching doctors if such a childish act took place.

Jogging clinics are activities that are not uncommon and of greater or lesser service depending on the context. No market consultant should be necessary to suggest such an effort.

See patients on time is a matter that more or less takes care of itself. If a physician is so busy that he has trouble meeting his schedule, he doesn't need marketing advice. If he is missing his appointments because of laziness or poor organization a marketing consultant probably won't do him any good.

But advising the doctor to arrange office hours to suit the patient's needs really takes the cake. What a blinding revelation! My colleagues here in the boondocks have been doing this since medicine climbed out of the traveling show wagons. If the younger ones have not caught on to this concept, the market consultant may indeed be needed, but what a sad commentary on the supply of common sense and commitment in the Medical Profession.

This whole exercise reminds me of re-inventing the wheel or developing a new type of nasal tissue that can be washed and reused. We could call it a "handkerchief."

The source of these thoughts by the way was a thoughtful editorial[1] that is well worth reading and is part of a series on competition in health care appearing in *Minnesota Medicine.*

My real point, however, is that every time we add a layer to the health care cake, it grows expensive while adding "empty calories" to the system. I find the whole concept of "Health Care Industry" and marketing strategies offensive. We must, of course, pay attention to our accessibility and ability to produce service. Making our presence known is not necessarily cheapening ourselves. But we must beware of the inroads of marketing and advertising or we may fall victim to the common commercial practice of improving the packaging and short-weighting the product to absorb the overhead.

John L. Meyer, M.D.

Putnam, CT

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STUDENTS' EXAMINATION BY THE SCHOOL PHYSICIAN

To the Editor: Dr. Benjamin Shenker has written an editorial in the October issue of *Connecticut Medicine* stating that it is advantageous to have the school physician do physical examinations in the school. I feel that such a program would be repetitious and deprive the school of many other useful things that a School Medical Advisor can do.

The school physician who undertakes primary medical examinations in the school may find that he (or she) is spending most of his time just doing examinations. This increased burden results in a mass screening procedure just to cope with the vast number of students. There are other disadvantages: The school physician may not have a detailed history at the time of the examination. Parents do not have time to discuss their concerns in a confidential manner. If significant abnormalities are found, the student then has to see his private doctor. This is a duplication of effort and may cause anxiety.

A better procedure would be to have the student's doctor do the examination and send the report to the school. Students that do not have a private doctor can best be served through a well-child clinic staffed by either a hired physician or a school nurse practitioner. School nurses can receive further training in becoming a school nurse practitioner by communicating with the State Department of Education about programs available.

If the school physician does not have to do physical examinations, he (or she) may then use his talents in more constructive ways by acting as a consultant to the school system. He can advise the school about medical aspects of learning disabilities. School Health Appraisal policies including immunization requirements constantly need to be updated. Nursing consultation is essential and certainly appreciated. Teachers need to be trained in emergency care. Parents demand information about safety and control of infectious disease.

These programs are all feasible if the School Medical Advisor does not assume the primary care of the student and concentrates on his consultant role. I would be happy to provide additional information should this be desired.

Martin W. Sklaire, M.D.

School Medical Advisor
Madison and Clinton School Systems
Chairman School Health Committee
Conn. Chapter American Academy of Pediatrics

The above letter was referred to the author of the article in question, who offers the following reply:

To the Editor: It would appear that Dr. Sklaire and I have different concepts of the role of the school physician. This may in part be due to the fact that the communities of Madison and Middletown present widely different situations, i.e., the number of schools and students, home environments, income levels, language difficulties, large numbers of transfers from other towns, states, and countries, and level of community response.

His letter uses some inaccurate and at times unfortunate wording, —i.e., "advantageous" a word I have not used to describe our program. "Repetitious" could hardly apply to an examination *not* previously done. "Depriving the school of many other useful things that a school medical advisor can do" is obviously a poorly thought out remark inasmuch as he is uninformed of what is actually done. He implies a lack of "confidentiality," another erroneous conclusion. He suggests that our findings cause "anxiety." I am certain that any report of a medical problem will cause anxiety whether it originates from his private office or one of our schools. As a matter of fact the majority of parents are grateful for our help.

The following partial list may indicate whether or not we deprive the schools in any way.

1. Although the state now requires examinations of only the 6th and 11th grades, we also include the 2nd; six years seems a very long time to wait before seeing a child for the first time. 2. Examination of all applicants (1200-1400 yearly) for interscholastic sports in the four high schools. 3. Reexamination of all injured athletes before allowing their return to competition. 4. Attendance at all home and frequently out of town football games. 5. Institution and supervision of CPR and First Aid certification of all coaches and physical

education teachers. 6. Institution as of the school year 1982-3 of similar certification of all high school students before graduation. 7. Yearly testing of 8th grade students for anemia (a program started about 1976). Genetic counselling is supplied for identified cases of sickle cell disease or thalassemia traits. 8. A blood pressure research program was started four years ago in an effort to identify the earliest age at which hypertension might be detected. 9. New state laws require hematocrits at grades 6 and 11. Those students eligible for aid (i.e., food stamps) will be done by our own staff at an appreciable taxpayer saving, inasmuch as the town is responsible for the cost. All other students will be referred to private facilities. 10. Many years ago, I among others initiated a comprehensive school health education program, to which I continue to function as an advisor. 11. A number of educational symposia and lectures are attended by my nursing staff.

It is quite possible that Dr. Sklaire can identify areas in which we are deficient. I would be happy to consider any suggestions. We attempt to do whatever is essential to achieve the best possible results. The medical problems we have uncovered by our examinations indicate clearly that we have provided an important service, one which supplements rather than replaces that provided by other facilities.

Benjamin M. Shenker, M.D.

Director of School Health
Middletown, CT

SPECIAL NOTICES

Current Concepts in Otolaryngology for Primary Physicians
Yale University School of Medicine
Harkness Auditorium
Wednesday, March 31, 1982
8:30 A.M. Registration

This conference will provide an update on concepts in otolaryngology for primary physicians. Approved for six hours of Category I credit.

For further information and enrollment forms, contact the Office of Graduate and Continuing Education—(203) 432-4582.

Symposium on Near-Death Experience to be Held at Yale Medical School
Saturday, May 1, 1982

A symposium on the near-death experience will be held in Harkness Auditorium at Yale University School of Medicine, 333 Cedar Street, New Haven on Saturday, May 1 from 9 a.m. to 5 p.m.

The symposium will include a review of criticism about near-death research, along with two film interviews with near-death experiencers, and a panel discussion.

Cost is $35 and $25 for students and senior citizens. For tickets, write to: International Association for Near-Death Studies, Box U-20, UConn, Storrs, CT 06268.

18th Annual Cardiovascular Symposium
Saint Francis Hospital and Medical Center
Hartford, CT
May 5 and 6, 1982

The 18th Annual Cardiovascular Symposium sponsored by the Section of Cardiology, Saint Francis Hospital and Medical Center, Hartford, CT will be held at Hunt Memorial, Hartford Medical Society, 230 Scarborough St., Hartford, CT, May 5 and 6, 1982. The fee is $60.00.

Contact: Robert M. Jeresaty, M.D., Director, Section of Cardiology, Saint Francis Hospital and Medical Center, 114 Woodland St., Hartford, CT 06105.

Questions and Answers

When is a Hernia Not a Hernia for Employment Purposes?

Q A 22-year-old man was referred to me for medical examination after he had passed the entrance requirements of the local police academy without difficulty, including a strenuous exercise test. I found bilateral, dilated external and internal inguinal rings and a wide open inquinal canal. On probing I found no impedance. When I touched the internal inguinal ring, the patient coughed and an impulse was felt. I diagnosed the condition as open inguinal rings and canal and impending hernia. The candidate consulted a surgeon who stated that he found no hernia, did not recognize the diagnosis of "impending hernia," and would operate only in the presence of a hernia with intestines in the inguinal canal. The police department refused to hire the candidate on the ground that he would need surgery at their expense and would be eligible for disability payments until he returned to duty. Your consultant's opinion would be helpful in resolving this situation.

Morris Rosen, M.D.
Huntington Beach, Calif.

A The Occupational Medical Practice Committee of the American Occupational Medical Association has reviewed your question and submits the following opinions: (1) The size of the external inguinal ring is of no consequence as far as inguinal hernia is concerned. (2) The Committee finds no data to show that people with enlarged internal inguinal rings and no hernia subsequently have a higher incidence of inguinal hernia. (3) Enlarged inguinal rings are no reason to refuse employment to any individual for any job. (4) There is nothing in the medical literature to support the contention that a patient with an inguinal hernia is incapable of lifting heavy objects. (5) The two medical indications for repair of an inguinal hernia are the possible incarceration and the desire of the patient to eliminate the bulge and the hernia that is present.

The Committee recommends that a preemployment medical examination be done before applicants enter a work assignment. This would eliminate training persons who later fail to pass the physical requirements for the job.

Before applying a program that involves physical task assessment or physical levels of performance, the prospective employer should consider Occupational Safety and Health and Equal Employment Opportunity Commission regulations. The employer may not use the preemployment medical examination data to speculate on the long-term possibility that the condition will progress or lead to inability to work or to perform a specific task. An applicant can be disqualified only if his or her handicap "creates a substantial risk of imminent danger to self or others."

T. Forrest Fisher, M.D., Chairman
Occupational Medical Practice Committee
American Occupational Medical Association
Pittsburgh

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AMA News from the Executive Vice President's Office

AMERICAN MEDICAL ASSOCIATION

CHARGES FOR PHYSICIANS' SERVICES ROSE 11.7% IN 1981, according to the government's Consumer Price Index. The figure for the physicians' services component of the index was higher than the 8.9% increase in the all-items component and lower than the 13% rise in all services during the year.

The medical care index went up 12.5% in 1981. It was the only CPI category to show an increase over the 1980 figure. In 1980, medical care rose 10%, compared to 12.4% for all items and 14.2% for all services. The physicians' services figure for 1980 was 11%.

The declining rate of increase for the all-items index was attributed by government officials to high crop and meat production that held the food price increase to 4.3% in 1981 compared with 10.1% in 1980, high mortgage interest rates that reduced the demand for housing, the oil glut and fuel conservation that reduced energy costs, unemployment, and weak growth in overall personal income.

Other 1981 rates of increase in the medical care index, with 1980 figures in parentheses, were prescription drugs, 12.6% (9.8%); dental services, 10.2% (10.7%); medical care commodities, 11.3% (10%); and hospital room charges, 17% (13.9%).

In December 1981 the increase in the physicians' services component was 0.5%—greater than the 0.3% rise in all items and the 0.4% rise in all services but slightly lower than other components of the medical care index. Prescription drug costs and hospital room charges both rose 0.8% in December. Charges for dental services went up 0.6% last month.

* * *

BUDGET PROPOSALS WITH A SPECIAL IMPACT ON PHYSICIANS are part of the plan to save money on the Medicare program. These are:

- Postponing the date of the Part B fee screen adjustment from July 1 to Sept. 30, which is expected to reduce physician reimbursement outlays by $220 million on a one-shot basis.
- Limiting the increase in the Medicare Economic Index to 5%, instead of 8%, at a savings of $37 million in fiscal 1983. HHS said this would result in physicians sharing the "burden of slowing the growth of health care expenditures at a time of severe constraints on the federal budget."
- Reimbursing for inpatient radiology and pathology services at 80% of reasonable charges, instead of at 100%, for a saving of $160 million next fiscal year.
- Eliminating the payment of overhead expenses to hospitals for physicians' services in outpatient departments "by refining the application of the Medicare customary and prevailing charge screens to more appropriately reflect reasonable charges for professional services provided in different locations." The savings estimate is $160 million.

* * *

THE GOVERNMENT SHOULD ENCOURAGE, NOT HINDER, THE EFFORTS of professionals to advance their ethical standards for the benefit of patients, the AMA told the U.S. Supreme Court in an argument challenging the Federal Trade Commission's jurisdiction over not-for-profit professional associations and their ethical pronouncements.

In a one-hour oral argument the justices were urged to reject the FTC order of October 1979 prohibiting the AMA from involving itself in advertising by physicians unless the advertising "would be false or deceptive" under the Federal Trade Commission Act, and from involving itself in the consideration provided to physicians for their services.

The Supreme Court's decision on the case, not expected until late spring or summer, is expected to be a definitive ruling on the government's powers to interfere with the ethical codes of professionals and on the jurisdiction of the FTC in the professional field. Not only physicians, but lawyers, dentists, architects, etc., may be affected by the decision.

Chicago attorney Newton Minow, counsel for the AMA, said the FTC should have given the AMA a medal instead of a long trail (almost nine months), because the AMA was the first professional organization to rewrite its ethical codes following the Supreme Court's historic

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AMA Newsletter, JAMES H. SAMMONS, M.D., Executive Vice President.

1975 decision rejecting a state bar association's fee standard. The new AMA code limited the restrictions against physician advertising to make unethical only advertising that is false, misleading or deceptive.

The FTC didn't pay attention, Minow said, and the AMA's warnings of the impact of improper advertising on patients went unheeded. The protection of the public is at stake, he said. "We are dealing with health, life and safety." He described the FTC as obsessed with the past, unconcerned with the present, and blind to the future.

Minow said the FTC doesn't have the legal authority to move against non-profit, professional associations such as the AMA. Congress carefully limited the agency's jurisdiction to profit organizations, he pointed out. The AMA and the other defendants—the Connecticut State Medical Society and the New Haven County Medical Assn.—"are simply not organized for the business of making profits for their members," he said. More than 90% of the AMA's efforts is devoted to advancing the educational and scientific aspects of medicine, Minow noted.

Howard Shapiro, FTC deputy general counsel, told the court that the AMA's abandonment of a flat proscription on advertising in its new Principles of Medical Ethics was "highly ambiguous." Justice Byron White interrupted to say that the new AMA principles specifically state that they do not proscribe advertising. "That was new, wasn't it?" he asked. Shapiro conceded that the wording was changed significantly. Chief Justice Warren Burger questioned Shapiro on the extent to which the government can interfere with the ethical standards of a professional association.

THE APPEAL BY FIVE CHIROPRACTORS in the so-called Wilk case was taken under advisement by the Seventh Circuit Court of Appeals in Chicago. Last year a U.S. District Court jury found the AMA and 12 other defendants innocent of all antitrust charges brought against them by the chiropractors.

In arguments for the chiropractors, attorney George McAndrews said the verdict should be set aside because U.S. District Judge Nicholas J. Bua had given incorrect instructions to the jury and because the defendants' evidence had been prejudicial. He said the judge had allowed the defendants to present too much evidence concerning protection of the health, welfare, and safety of the public.

Arguing for the defendants, Chicago attorney Max Wildman said the chiropractors were not suing physicians to redress them. "They have prospered. They have grown," he said. "Now they want to go beyond their licensure. They don't want to compete with physicians. They want to share physician responsibilities." Also arguing for the defendants before the three-judge panel, attorney Philip C. Neal said that although the chiropractors brought the case as an antitrust action, "there is no evidence that physicians conspired to harm them, or that harm has been sustained."

THE AMA URGED THE GOVERNMENT TO TAKE AGGRESSIVE ACTION to collect past-due student loans and to adopt methods of repayment that will assure fewer defaults. In a letter to Sen. Charles H. Percy (R-Ill.), who held a committee hearing on the subject, the AMA offered to work with Congress to develop mechanisms to help medical students find educational funding.

Some 50,000 health professionals, including more than 5,000 physicians, are seriously delinquent in repaying Health Professions Student Loans and Nursing Student Loans, the Senate committee staff reported. Under the programs, the Health and Human Services Dept. makes the money available to schools which lend it to qualified students. The schools are responsible for repayment from students.

The letter to Percy pointed out that the AMA House of Delegates at its 1981 Interim Meeting called on the Association to "urge medical schools to review the operations of their financial aid offices and make any changes that may seem appropriate and feasible that would assist medical students to find available funds, manage debt responsibly, and minimize abuse of the programs that could discourage aid sources."

THE AMA SUPPORTED A "GOOD SAMARITAN" BILL that would encourage the rendering of medical emergency care aboard aircraft by relieving medical personnel and air carrier employees from potential liability. In a letter to the congressional subcommittee considering the bill (HR 5054), the AMA noted that it backed a similar measure in the last session of Congress.

The AMA informed the subcommittee of the recent House of Delegates action recommending that each commercial air carrier conduct an annual first aid and CPR program for flight attendants and have a trained flight attendant on every flight. The House also urged physicians to respond to in-flight medical emergencies if requested by the flight crew and called on the AMA to continue to inform physicians on the incidence of, and how to care for, in-flight medical emergencies.

FROM THE EXECUTIVE DIRECTOR'S OFFICE

160 St. Ronan Street, New Haven, Conn. 06511 Telephone 865-0587

Timothy B. Norbeck, *Executive Director*
Josephine P. Lindquist, *Associate Executive Director*

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Assistant Executive Director
Public Affairs

Robert J. Brunell
Assistant Executive Director
Scientific Activities

Richard J. Fiorentino
Coordinator
Special Services

CALL
ANNUAL MEETING OF THE HOUSE OF DELEGATES

The 1982 Annual Meeting of the House of Delegates will be held at the Parkview Hilton Hotel, Hartford, commencing at 12:30 P.M. on Wednesday, May 26.

Andrew J. Canzonetti, M.D., President
Joseph S. Sadowski, M.D., Speaker of the House
Louis C. Backhus, M.D., Secretary

INTRODUCTION OF RESOLUTIONS

Article V, Section 12, Par. 3 of the Bylaws of the Society provides:

Resolutions may be introduced by any Active or Life Member or student members or postgraduate physician members of the Society, in compliance with the following provisions:

a. *All resolutions, reports and similar items of business submitted in writing and received at the office of the Executive Director not later than thirty days before the date scheduled for that meeting shall be considered as regular business of the House of Delegates.*

b. *Component county associations or the student members or postgraduate physician members, whose meetings are held later than thirty-five days prior to the date of the House of Delegates shall be allowed five days after the close of such meeting in which to submit resolutions, reports and similar items of business to the Executive Director's office and still have such material considered as regular business. In no event, however, may such resolutions, etc. be considered regular business if they are received later than fifteen days prior to the date of the meeting.*

c. *Reports, recommendations, resolutions or other new business may be presented to the House of Delegates by the Council of The Society at any time and shall be considered as regular business.*

d. *Any business which does not qualify as regular business in accordance with the foregoing provisions may be accepted for consideration by a majority vote of the delegates present and shall be referred at once by the Speaker to a reference committee. When business is introduced under the provision of this paragraph the vote shall be taken without debate, except that the introducer shall be allowed not more than two minutes to explain why it should be considered as regular business.*

COUNCIL MEETING

Thursday, February 4, 1982

Attendance

Present were: Drs. Canzonetti, Parrella, Doctor, Backhus, Mendillo, Sadowski, Hecklau, James, Hess, Friedberg, Van Syckle, Whalen, Abbot, Petrie, Jameson, Rubinow, Anderson, Freedman, Zlotsky, Orphanos, Beck, Seide, Concannon, McDonnell, Czarsty, Sonnen and Hayes.

Also present: Mr. Norbeck, Mrs. Lindquist, Mr. Sweeney, Mr. Brunell, Mr. Fiorentino, Mr. Tomat (FCMA) and Dr. Fabro.

Absent were: Drs. Barrett, Ragusa, Kaess and Bobruff.

Report of the President

President Canzonetti reported to the Council his opinion that CSMS should consider forming a Commission on Disability which would deal with establishing proper lengths of stay for uncomplicated cases of disability and tackle the problems involved in granting total disability. The President mentioned that business was becoming very interested in disability problems and the general problem of rising health care costs. Drs. Canzonetti and Van Syckle will explore this subject and report back to the Council at a later date.

Following these comments, Dr. Canzonetti asked Tom Norbeck to give a verbal report on his attendance at the recent meeting of the Advisory Committee to the AMA Executive Vice-President.

Mr. Norbeck reported that AMA membership had increased by 8000 members from 1980 to 1981, but that only 1700 of them represented regular dues paying members. He mentioned that Dr. Sammons said that the AMA has a better relationship with the Reagan Administration than has existed with several of the past administrations, but the AMA hopes to have more input into the decision making process than it has enjoyed up to this time.

Mr. Norbeck mentioned that the AMA and CSMS legal counsel presented oral arguments before the U.S. Supreme Court on January 11, 1982, regarding the FTC advertising case. It was estimated that the Court will render a decision in late May. He also reported that Dr. George Lundberg, the new editor of JAMA, said that there will be more pages devoted to editorial space in future issues and articles can be printed within six weeks instead of the heretofore six months. A written report will be distributed to members of the Council with the minutes.

Legislation

Isadore H. Friedberg, M.D., Chairman of the CSMS Committee on Legislation, reported on a recent meeting held with Gregory Slater, M.D., about the general subject of tort reform and revision of the present system for handling professional liability suits. A Workmen's Compensation type tribunal was discussed along with other options within the current tort system. Dr. Friedberg also reported on the status of the Unincorporated Business Tax and legislation re "Definition of Death."

Principles for Voluntary Medical Peer Review

It was VOTED to adopt the AMA Principles for Voluntary Medical Peer Review and to recommend approval by the CSMS House of Delegates at its meeting on May 26, 1982.

1. Medical peer review is an organized effort to evaluate and analyze medical care services delivered to patients and to assure the quality and appropriateness of these services. Peer review exists to maintain and improve the quality of medical care.
2. Medical peer review is a local process.
3. Physicians are ultimately responsible for all peer review of medical care.
4. Physicians involved in peer review should be representatives of the medical community; participation must be structured to maximize the involvement of the medical community. Any peer review process must provide for consideration of the views of individual physicians, groups of physicians, or institutions under review.
5. Peer review evaluations are based on appropriateness, medical necessity, and efficiency of services to assure quality medical care.
6. Any system of medical peer review must have established procedures.
7. Peer review of medical practice and the patterns of medical practice of individual physicians, groups of physicians, and physicians within institutions is an ongoing process of assessment and evaluation.
8. Peer review is an educational process for physicians to assure quality medical services.
9. Any peer review process must protect the confidentiality of medical information obtained and used in conducting peer review.

Proposed Legislation on Driving While Intoxicated

After discussion of a resolution submitted by the Committee on Emergency Medical Services, it was VOTED further to approve of the EMS Committee resolution with amendments as follows:

"Therefore: Be it resolved that the Council of the Connecticut State Medical Society empower members of the Committee on Emergency Medical Services to meet with the Committee on Legislation, to help to formulate legislation which would strengthen Section 14-227 B."

It was further VOTED that members of the EMS Committee could discuss the subject informally with legislators, but should not actively engage in legislative action unless through the Committee on Legislation.

Charge of Committee on Continuing Medical Education

It was VOTED that the new proposed charge to the Committee on Continuing Medical Education be approved as follows:

The Council annually shall nominate to the House of Delegates a Committee on CME, and nominate the Chairman thereof.

The Committee on Continuing Medical Education shall consist of not more than twenty representatives of CSMS-accredited hospitals and organizations, and shall meet the composition guidelines of the AMA Council on Medical Education. The goal of the Committee is to promote voluntary continuing education activities among CSMS members, and to support their life-long commitment to continuing medical education.

The function of the Committee is to enhance and encourage the availability of accredited CME of high quality through its status as the intra-state accrediting agency responsible to the National Accreditation Council for Continuing Medical Education, and to make available information and consultation regarding CME methodology to those individuals responsible for organizing CME throughout the state of Connecticut.

Appointment to Statewide Health Coordinating Council (SHCC)

It was VOTED to submit the names of Orvan W. Hess, M.D., North Haven, and Morris J. Seide, M.D., Hartford, to Governor O'Neill for appointment by him to fill a vacancy on SHCC.

Appointment to State Commission on Medicolegal Investigations

The matter of nominating a representative to the State Commission on Medicolegal Investigations was tabled until the next meeting of the Council.

Life Members

The names of new life members were presented to the Council for information and are as follows:

Carl S. Hellijas, M.D., 4 River Road, Wethersfield (H) - 1/1/82

Sidney B. Luria, M.D., 134 Grandview Avenue, Waterbury (NH) - 1/1/82

Irving J. Sherman, M.D., 2660 Main Street, Bridgeport (F) - 1/1/82

Robert A. Eston, M.D., 2068 Bridgeport Avenue, Milford (NH) - 1/1/82

Ad Hoc Committee on Nursing Study

Drs. Guy W. Van Syckle and Frank K. Abbot discussed the formation of the Ad Hoc Committee on the National Commission on Nursing which had been voted by the Council at its December meeting. It was reported that letters had been mailed out to the county medical associations soliciting nominees to the committee. Dr. Abbot, committee chairman, hopes to complete the committee deliberations and have a report ready for the House of Delegates at its meeting on May 26, 1982.

House of Delegates—May 26, 1982

Dr. Joseph Sadowski, Speaker of the House, asked the Council if it wished to follow the same starting time and format for the May 26 House of Delegates meeting as had been adhered to at the November 1981 meeting. The Council agreed to follow the same agenda format.

Next Meeting

The next meeting of the Council will be held on Wednesday, March 24, 1982.

N.B.: *The foregoing is a summary of the proceedings and actions of the Council on February 4, 1982. Detailed minutes of the meetings are on file at 160 St. Ronan Street, New Haven, for perusal by any interested member of the Society.*

A Request for Change of Address

Notification of address change should be sent at least six weeks in advance, include both old and new address, and a mailing label taken from the most recent copy. Include your new ZIP Code number. Duplicate copies cannot be sent to replace those undelivered through failure to send advance notice.

CONNECTICUT MEDICINE
160 St. Ronan Street
New Haven, CT 06511

IN MEMORIAM

BLANCHARD, DANA, Yale Medical School, 1931. He was a general practitioner in the New Haven area for more than 40 years and served as medical examiner in the Branford area for more than 30 years. He was on the staff of the Yale Health Department and was a member of the New Haven County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Blanchard died December 30, 1981, at the age of 76.

DEREN, M. DAVID, Upstate Medical School, Syracuse, 1933. Dr. Deren was a internist in the Fairfield area for 40 years. He was an Army veteran of World War II and had been chief of medicine in four general hospitals in England and France at the time the war ended. Dr. Deren was an assistant clinical professor of medicine at Yale, and had been a consultant in medicine for St. Vincent's Medical Center and Park City Hospital. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Deren died December 29, 1981, at the age of 73.

GREEN, ROBERT H., Johns Hopkins, 1938. Dr. Green was a internist in the Middlesex area since 1947. He was a Navy veteran of World War II and was a former professor of medicine at the Yale School of Medicine. He was a member of the Middlesex County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Green died December 25, 1981, at the age of 70.

PAULAY, KARLEN, Yale Medical School, 1962. Dr. Paulay was a cardiologist in the Hartford area since 1962. He had a private practice in Southington and was on the staff of Bradley Memorial Hospital. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Paulay died December 9, 1981, at the age of 45.

SHEA, MICHAEL S., Vermont Medical School, 1921. Dr. Shea was a general practitioner in the New Haven area since 1922. He interned and became a staff member at St. Raphael's Hospital and served as president of the staff in 1947 and 1948. He chaired the hospital's board from 1948 to 1949 and was first president of the General Practitioners Board. He was a co-founder of American Academy of Family Physicians and served as the first president of the Connecticut Chapter. He was a member of the New Haven County Medical Association, Connecticut State Medical Society and the American Medical Association. Dr. Shea died January 25, 1982, at the age of 92.

PHYSICIAN PLACEMENT SERVICE

The Society maintains the Physician Placement Service as a service to the medical profession in Connecticut. Opportunities for physicians to locate in Connecticut will be published as space permits and will be distributed to physicians making inquiries of such opportunities. Information should be sent to 160 St. Ronan St., New Haven, CT 06511 (203-865-6822).

Physicians wishing to establish practice in Connecticut are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.

OPPORTUNITIES FOR PRACTICE

(If no name is listed, contact the Physician Placement Service for more details.)

ALLERGY

Allergist—Solo practice. Central Connecticut suburban setting in rapidly expanding community. UConn and Yale Medical Centers easily accessible. Excellent community hospital with a wide range of ancillary services. Medical Staff of Family/General Practitioners and multiple specialties. Financial assistance negotiable. Write: Director, Bradley Memorial Hospital, Meriden Avenue, Southington, CT 06489 or call 203-621-3661 Ext. 331.

EMERGENCY DEPARTMENT

EMERGENCY DEPARTMENT PHYSICIAN. Full time position available in Fairfield County, CT. Seeking physician interested in Emergency Medicine as a career to join established staff in new, modern university affiliated teaching hospital with 40,000 visits per year. Salary competitive. Excellent benefit package including liability coverage. Also interested in applicants who may only wish to work night shifts. Please submit curriculum vitae. CSMS, ER/DVS.

FAMILY PRACTICE

Busy solo family practice including building with office and apartments. Center of West Haven. Plan to retire by 10/1/82. Call John Chasnoff, M.D., West Haven, (203) 934-1115.

INSTITUTIONAL MEDICINE

Vacancy for Internist—350 bed JCAH accredited hospital. Acute and chronic patients in all sub-specialties; emphasis on geriatric medicine. C.V. to R. Cavalieri, M.D., CT State Veterans Home and Hospital, 287 West Street, Rocky Hill, CT 06067 or call (203) 529-2571.

INTERNAL MEDICINE

Internist with subspecialty of Infectious Diseases—Solo Practice. Central Connecticut suburban setting in rapidly expanding community. UConn and Yale Medical Centers easily accessible. Excellent community hospital with a wide range of ancillary services. Medical Staff of Family/General Practitioners and multiple specialties. Financial assistance provided. Write: Director, Bradley Memorial Hospital, Meriden Ave., Southington, CT 06489 or call 203-621-3661 Ext. 331.

ORTHOPEDIST

Orthopedist—Solo Practice. Central Connecticut suburban setting in rapidly expanding community. UConn and Yale Medical Centers easily accessible. Excellent community hospital with a wide range of ancillary services. Medical Staff of Family/General Practitioners and multiple specialties. Financial assistance provided. Write: Director, Bradley Memorial Hospital, Meriden Ave., Southington, CT 06489 or call 203-621-3661 Ext. 331.

OTORHINOLARYNGOLOGIST

Associate wanted. Must be board eligible or board certified. General ENT practice with large pediatric and trauma service. Send C.V. to CSMS, OTO/RP, (to be forwarded).

PEDIATRICS

NEONATOLOGIST. Level II nursery. Half-time in nursery, half Private Pediatric Practice. Hartford area. Contact: Dr. Herbert Werner, 41 Jerome Ave., Bloomfield, CT 06002. (203) 242-8574.

RADIOLOGY

Services of a part-time Radiologist needed in well equipped office. Please reply to: Administrator, Box 37, Sharon, CT or call (203) 364-5093.

PHYSICIANS WISHING TO LOCATE IN CONNECTICUT

ANESTHESIOLOGY

July '82. Age: 42. Presently in practice. FLEX. AB elig. MD, and Int., King George's Medical College; Res., French & Polyclinic Medical Center, NY and Monmouth Medical Center, NJ. Prefers General Family Practice and/or part-time Anesthesiology. No preference in size of practice. Contact: Virendra Singh, M.D., 46 Main St., Delhi, New York 13753.

FAMILY PRACTICE

July '82. Age: 30. Nat'l bds. MD, SUNY Downstate; Int., Somerset Medical Center, NJ; Res., King's County Hospital, NY. Prefers Partnership with a minimum guaranteed salary for the 1st year or two in a small to medium size community. Contact: Ralph Salvietti, M.D., 153 Gelston Ave., Brooklyn, NY 11209.

July '82. Age: 28. Nat'l bds. AB elig. MD, George Washington University; Int. and Res., Williamsport Hospital. Desires Group, assoc. or institutional type practice in a medium size community. Contact: Jeffrey B. Wetstone, M.D., 10 Valley Heights Dr., Williamsport, PA 17701.

July '82. Age: 32, FLEX. AB elig. MD, University of Bologna, Italy; Int. and Res., Brookhaven Memorial Hospital, New York. Solo or group practice in small to medium size community. Write: Eugene M. Lipiva, M.D., 527 High Street, Port Jefferson, NY 11777.

June '82. Age: 31. Presently in practice. FLEX. AB cert. MD, University of the Saar, W. Germany. Res., Community Hospital at Glen Cove, NY. Prefers practice without Obstetrics in northwestern Connecticut—group or assoc. in small to medium size community. Write CSMS, HDS/FP.

INTERNAL MEDICINE

CARDIOLOGY. Immediately. Age: 31. AB elig. MD, Medical College University Baroda, India. Int. and Res., Kingsbrook Jewish Medical Center, Brooklyn. Fellowship, Norwalk Hospital. Group, associate or institutional practice in noninvasive and invasive cardiology. Write: Arvind M. Mehta, M.D., 672 General Scott Rd., King of Prussia, PA 19406.

GASTROENTEROLOGY. July '82. Age: 32. FLEX. AB cert. MD, Nishtar, Multan Pakistan; Int., Res., and Fellowship, Bronx-Lebman Hospital (Albert Einstein College). Solo, group, assoc. or institutional practice in medium to large size community. Mainly interested in Gastroenterology practice with some Internal Medicine practice. Write: Muhammad A. Nyazee, M.D., B-E 1650 Selwyn Ave., Bronx, NY 10457.

Jan. '82. Age: 27. AB elig. MD, University of Rajasthan; Int. and Res., Coney Island Hospital, NY. Group, assoc., institutional or industrial/hospital based type of practice preferred. Contact: Mukesh Mathur, M.D., 853 Ave. Z, Brooklyn, NY 11235.

ONCOLOGY. Aug. '82. Age: 31. Nat'l bds. AB cert. MD, University of Illinois; Int. and Res., E. Hines VA Medical Center, Fellowship, National Cancer Institute, Baltimore, MD. Prefers medical school affiliation and hospital with accredited Internal Medicine residency in medium to large community. Write: CSMS/IM/SMC.

INTERNAL MEDICINE—Continued

July '82. Age: 32. Nat'l Bds. AB elig. MD, University of Connecticut School of Medicine; Int. and Res., The University of Rochester Associated Hospitals Program in Internal Medicine. Group or associate practice in medium or large community. Write: Arthur G. King, M.D., 505 Richardson Rd., Rochester, NY 14623.

July '82. Age: 29. Presently in practice. Nat'l bds. AB elig. (certifying exam pending). MD, Emory University, Atlanta, GA; Int. and Res., St. Vincent's Hospital and Medical Center of NY. Group, associate or institutional practice preferred. Write: Lee C. Abel, M.D., 100 Risley Rd., Chestnut Hill, MA 02167.

Nov. '81. Age: 52. Licensed in Connecticut. AB elig. MD, Albany Medical College; Res., Int. and Fellowship, Albany Medical Center Hospital. Group, associate, institutional or industrial practice. Proficient in electrocardiograph and can interpret chest x-rays. Write: Arthur J. Boyko, M.D., 97 Euclid Ave., Albany, NY 12203.

Infectious Disease. July '82. Age: 31. Nat'l bds. AB cert. MD, Albany Medical College; Int., Cornell, The New York College; Res., Yale New Haven Hospital; Fellowship, Nassau County Medical Center and Beth Israel Medical Center. Interest in consultive infectious disease in a teaching institution or general internal medicine and/or group practice. Write: Alan Lin-Greenberg, M.D., 353 East 17th Street, New York, NY 10003.

July '82. Age: 28. Nat'l bds. AB cert. MD, Boston Univ.; Int. Res. and Fellowship, The Hospital of St. Raphael. Objective is to practice high quality Internal Medicine and Endocrinology in a group practice, solo practice, partnership or Health Maintenance Organization. Write: Thomas Gartman, M.D., 42 Manila Ave., Woodbridge CT 06525.

CARDIOLOGY. Feb. '82. Age: 33. AB elig. MD, Mysore Medical College, Mysore, India; Int., Hospital for Joint Diseases & Medical Center, NY; Res., Wayne State Univ.; Fellowship, Downstate Medical Center. Assoc., group or institutional in small to medium size community preferred. Non-invasive cardiology including echo, stress testing, Swan Ganz, pacemaker, etc., preferred. Write: Nandakumar S. Iyengar, M.D., 142 Hawkins Ave., Parsippany, NJ 07054.

HEMOTOLOGY. Aug. '82. Age: 34. Nat'l bds. MD, McGill Univ.; Int., Jewish General Hospital, Montreal; Res. and Fellowship, Royal Victoria Hospital, Montreal. Prefers group or assoc. type practice in medium to large size community. Has had four years experience in General Practice. Write: Marc L. Fishman, M.D., 3600 Parc Ave., #903, Montreal, P.Q., Canada H2X3R2.

NEUROLOGY

July '82. Age: 32. Presently in practice. Nat'l bds. AB elig. MD, Hahnemann Medical College: Int., Brookdale Medical Center; Res., Mount Sinai Medical Center; Fellowship, Stony Brook Medical School. Solo, group, assoc. or institutional practice in a medium to large community. Board eligible in neurology and radiology. Write: CSMS, NEUR/GG.

ORTHOPEDICS

Immediate. Age: 51. Presently in practice. FLEX. AB cert. MD, University of Amsterdam; Int., Seattle, Washington; Res., U.S. Navy; Fellowship, Duke Medical Center. Solo, group or assoc. practice in small to large size community. Experience in hip and lunbar spine surgery. Write: CSMS, JGD/ORTHO.

OTOLARYNGOLOGY

July '82. Connecticut License. Age: 47. Presently in practice at Lenox Hill Hospital doing Head & Neck Surgery Fellowship. Canadian Flex:LMCC. AB elig. MD, Queens College, St. Andrews University, Dundee, Scotland; Int., Ottawa General Hospital; Res., St. Luke's Medical Center, Columbia University, NY. Prefers assoc. or institutional practice. Write: CSMS/Otol-FHPD.

OTOLARYNGOLOGY—Continued

Immediately available. Connecticut License. Presently in practice. Age: 41. AB cert; MD, University of Louisville School of Medicine; Int., Beth Israel Medical Center, NY; Res., Bronx Municipal Hospital Center-Einstein Medical School. Interested in part-time ENT practice (2 day week) or part-time ER practice and would consider institutional work. Write: CSMS, ENT/AC (to be forwarded).

PATHOLOGY

Immediately. Age: 44. AB elig.; MD, Southwestern University School of Medicine; Int., St. Thomas Hospital, Akron, OH; Res., Emory University School of Medicine (pathology); Baylor College of Medicine (nuclear medicine); Fellowship, Saint John's Mercy Medical Center, St. Louis, MO. Special interest in cytopathology, renal pathology, clinical pathology and nuclear medicine. Would be willing to cover ER or hospital floor. Contact: Jose K. Abrenio, M.D., Department of Pathology, Saint Barnabas Medical Center, Livingston, NJ 07039.

PEDIATRICS

July '82. Age: 29. Flex. AB elig. MD, University of Maryland School of Medicine; Int. and Res., Children's Hospital of Pittsburgh. Was born and raised in Connecticut and wishes to return to practice general pediatrics in a medium to large community, preferably in group practice. Write: Robert G. Dorr, M.D., 753 Montclair Street, Pittsburgh, PA 15217.

July '82. Age: 29. Nat'l bds. AB elig. MD, University of Pittsburgh; Int. and Res., Geisinger Medical Center, Danville, PA; Fellowship, Medical College of Georgia (Pediatric Neurology). Prefers group, assoc. or institutional type practice in a medium size community. Contact: Roderic J. Hartman, M.D., 608 W. Woodlawn Avenue, North Augusta, SC 29841.

SURGERY

PLASTIC SURGERY. Immediately available. Age: 32. AB elig.; MD, Tufts University School of Medicine; Int., Yale-New Haven Hospital; Res., and Fellowship, Downstate Medical Center, State University of NY. Wants solo, group or assoc. practice in medium to large community. Write CSMS, SUR/RTH.

July '82. Age: 30. Nat'l bds. AB elig. MD, Thomas Jefferson University; Int. and Res., York Hospital, York, PA; Fellowship, Trauma Surgery & Critical Care, University of Kansas. Prefers practice primarily in an area with a large trauma volume and with surgical resident teaching programs. Write: Steven E. Ross, M.D., 2524 W. 51st Terrace, Westwood, KS 66205.

PLASTIC SURGERY. July '82. Age: 30. Nat'l bds; AB cert.; MD, Punjabi University; Int., Rochester General Hospital, New York; Res., University of Rochester; Res., Rutgers Medical School; Fellowship, Cornell Medical Center, New York. Prefers solo, group or assoc. practice in a large community. Write: Vasdev S. Rai, M.D., 435 East 70th St., #22B, New York, NY 10021.

July '82. Age: 30. Nat'l bds.; AB elig. MD, Albany Medical College; Int., Rhode Island Hospital; Res., Roosevelt Hospital, NYC; Fellowship, Henry Ford Hospital (Vascular Surgery). Group practice in medium to large community. Has preference to medical school affiliation. Write: Lawrence W. Silvers, M.D., 1350 West Bethune Ave., Apt. 2002, Detroit, Michigan 48202.

UROLOGY

July '82. Age: 30. Nat'l bds. MD, University of Florida. Int. and Res., University of Colorado (General Surgery) (Urology). Prefer solo, group or assoc. practice in a medium size community. Contact: Stanley H. Galansky, M.D., 1077 Race St., Apt. 1004, Denver, CO 80206.

UROLOGY

July '82. Age: 29. Nat'l bds. AB elig. MD, Downstate Medical Center; Int. and Res., Brookdale Hospital. Prefers solo, group or assoc. practice in medium to large size community. Write: Frederick Greenstein, M.D., 732 East 91 St., Brooklyn, NY 11236.

PSYCHIATRISTS

WATERBURY HOSPITAL is a 500 bed Yale affiliated teaching hospital. The hospital's Division of Psychiatry has Part Time and Full Time Clinical and Administrative positions available.

The CLINICAL POSITIONS are for Full Time and Part Time Staff Psychiatrists to act as consultants to full service teams offering in-patient, partial hospitalization and out-patient treatments. These positions are designed for individuals whose backgrounds and interests include neuropsychiatric diagnosis, psycho-pharmacology and individual, family, group and milieu therapy.

The ADMINISTRATIVE POSITION is for a Senior Clinician to assist in the planning, supervision and implementation of program. Requires individual with excellent clinical skills plus ability to administer, supervise and teach.

These are excellent opportunities in a dynamic, innovative psychiatric facility with a commitment to service AND teaching. Competitive salary and benefit program. Send curriculum vitae to:

Irwin M. Greenberg MD., DMSc
Director of Psychiatric Services

WATERBURY HOSPITAL
HEALTH CENTER
64 Robbins Street
Waterbury, Connecticut 06721

OR CALL

John Kelleher, MD
(203) 573-7174

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Acute Massive Ischemic Bowel Injury: Another Application for Home Total Parenteral Nutrition and a Reappraisal

JAMES J. GALLAGHER, M.D. AND PHILLIP TROWBRIDGE, M.D.

ABSTRACT—Massive ischemic necrosis of the bowel is a devastating illness with a high mortality. A case is presented in which an embolus to the superior mesenteric artery resulted in the eventual resection of the entire jejunem, ileum. and proximal right colon. The patient was sustained nutritionally with total parenteral nutrition and was ultimately discharged on a home hyperalimentation program. Home hyperalimentation has been widely used in progressive bowel diseases such as Crohn's Disease, but has less frequently been described for permanent use in acute ischemic injuries, such as the embolic injury presented here. The discussion focuses on the principles of management and particularly on the need for a reassessment of traditional surgical judgments regarding acute ischemic bowel injuries in view of the presently available technologies.

Acute, major ischemic insults with infarction of the bowel necessitating resection of all or most of the intestine is a devastating illness usually with a fatal outcome. In view of the elderly patient population usually involved and the extent of the resection needed to remove the compromised bowel, "open and close" laparotomies are often the frustrating result. With an aggressive diagnostic and management approach many of these patients can survive the initial operation only to subsequently die of malnutrition and its complications: sepsis, wound dehiscence, and pneumonia. The current widespread use of total parenteral nutrition can now sustain such patients indefinitely. Dudrick, Jeejeebhoy, and others have reported the use of home hyperalimentation methods in patients who have as their underlying illness a chronic progressive bowel problem resulting in a short gut syndrome, but little has been presented regarding the role of permanent hyperalimentation in the setting of an acute ischemic process.

Coupled with developing technologies many of these patients can continue productive lives, relatively free of hospital and physician constraints. A case history of such a patient is presented, in which an embolus to the superior mesenteric artery resulted in the eventual resection of the entire jejunem, ileum, and the proximal right colon. The patient was sustained nutritionally with intravenous hyperalimentation and was subsequently discharged on a home hyperalimentation program.

Case Report

A 76 year old white female presented in the Emergency Department with a chief complaint of severe abdominal pain, nausea, and vomiting. She had been well until twenty-four hours prior to admission at which time she experienced the abrupt onset of severe abdominal pain. The pain was generalized, had increased in intensity over the intervening time, and was accompanied by several episodes of emesis and diarrhea, the character of which the patient could not relate. She denied syncope of lightheadedness.

Past medical history was remarkable only for hypertension. She was on no medications at the time of admission and had never been previously hospitalized. Review of systems was not contributory to the present illness.

Physical examination revealed an overweight white female in obvious distress who was diaphoretic, tachypneic, and complaining of severe abdominal discomfort. Temperature rectally was 40°C. (104°F.). Blood pressure was 100-120 mmHg. systolic with an apical heart rate of 140-170 beats per minute without murmurs. Respirations were 22-30 per minute. The abdomen was distended but not tympanitic and the bowel sounds were diminished. Signs of diffuse peritoneal irritation were elicited with tenderness and guarding evident primarily in the upper quadrants. Rectal exam disclosed hematest positive dark, loose stool. The remainder of the exam was unremarkable.

Admission laboratory data revealed a hematocrit of 46% and WBC of 22, 500 per cu. mm., with the differential showing a significant shift to premature forms. Platelets were normal, as was the prothrombin time. The partial thromboplastin time was 21 seconds, shorter than the laboratory normals. Electrolytes and amylase were normal. Glucose was 266 mg.%. Arterial blood gases on supplemental oxygen were pH 7.48, $pO_2$66, total $CO_2$20, and oxygen saturation 97%. Chest X-ray on admission showed cardiomegaly, but was otherwise negative. Plain films of the abdomen revealed an overall hazy appearance and numerous air-fluid levels. There was no free air, no distended bowel loops, and no colon gas was present.

The electrocardiogram revealed atrial fibrillation with a rapid ventricular response and diffuse ischemia. No other acute changes were noted. The patient was not known to have previously been in

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atrial fibrillation.

The clinical impression after initial evaluation was that of an acute abdomen, most likely secondary to a major ischemic injury, with embolism from new atrial fibrillation as the presumed etiology. Appropriate fluid and pressure monitoring lines were inserted, vigorous hydration instituted, and broad spectrum antibiotic coverage for intestinal aerobes and anaerobes begun. Though digitalis preparations are generally to be avoided with mesenteric vascular insults due to their vasoconstrictor properties in the mesenteric vascular beds, it was necessary in this instance in order to control ventricular rates of up to 170 beats per minute.

Following rapid hydration a transfemoral angiogram with selective catheterization of the superior mesenteric artery (SMA) was performed. This disclosed occlusion of the SMA at the level of the middle colic vessel (Figures 1 and 2). Several attempts were made to position the angiographic catheter in the SMA for papaverine infusion, but the catheter repeatedly slipped back into the aorta.

The patient was then taken directly to the operating room where laparotomy was performed through a long midline incision. The small bowel was infarcted from 20 cms. distal to the Ligament of Treitz to 60 cms. proximal to the ileocecal valve. No mesenteric pulsations were present. The large bowel, including the cecum, appeared viable. The SMA was dissected and embolectomy performed at the level of the middle colic artery. Fresh clot was removed and after Fogarty catheter embolectomy the flow was restored. A vein patch was used for the angioplasty. The bowel was allowed to perfuse, was kept warm and moist, and observed for 20 minutes to determine the appropriate level for resection. Very little improvement was seen and the infarcted bowel was therefore resected from 20 cms distal to the Ligament of Treitz to 60 cms. from the cecum. The proximal jejunem was delivered as an end jejunostomy and the terminal ileum was exteriorized as a mucous fistula. The patient did surprisingly well after this procedure, was extubated, off pressors, and with good urine outputs at twelve hours postoperatively. Hyperalimentation via the central venous route was started at this time. Thirty-six hours later a second look operation revealed that the remaining terminal five centimeters of jejunem was not viable, that the ileum was dusky, and that a two centimeter diameter area of the anterior cecum appeared necrotic. The non-viable jejunem was further resected and again delivered as an end jejunostomy. The ileostomy was repositioned in the left lower quadrant as it was felt that the blood supply as previously positioned in the right lower quadrant was compromised. A tube cecostomy was done excising the ischemic area of cecum. The operation was completed with plans for another exploration. This was delayed by a post-operative pneumonia. Hyperalimentation volumes were progressively increased and the pneumonia treated. Thirteen days later, with resolution of the pulmonary problems, the third operation revealed that the remaining ileum was irreparably compromised, and so the remaining ileum and the cecum were removed. The jejunostomy was taken down and the end oversewn at the Ligament of Treitz. The descending limb of the duodenum was anastomosed with a side-to-side technique to the ascending colon at the hepatic flexure area. A gastrostomy was made and appropriate drains placed.

The patient's course was prolonged by an episode of non-oliguric renal failure, recurrent pneumonias, an upper gastrointestinal bleed from gastritis, and an episode of catheter related sepsis. All complications were treated aggressively in the usual manner since we felt that the patient was mentally clear and had the potential for meaningful survival. Throughout this period the patient's husband was continually supportive of our efforts.

Sixty-one days after admission the patient was free of sepsis and fully recovered from the post-operative complications. Nutritional status, assessed by the usual parameters, was positive. A central venous catheter of the permanent type (Broviac catheter) was placed at this time. A program was developed in concert with the hyperalimentation service, dietary department, and nursing services to begin instructions for eventual home hyperalimentation. A Coremed continuous infusion vest type apparatus was selected for infusion. The continuous hyperalimentation was gradually changed to a cyclic infusion, and eventually the patient was perfused via vest pump from 6 a.m. until 11 p.m. at which time the catheter was plugged and the infusion stopped for the night. Infusions were gradually increased at the start of each day to 125 cc. per hour and tapered similarly in the evening prior to discontinuation of the infusion. A total of 1800 to 2000 calories were delivered daily. The patient gained facility with the technique and was discharged home. She now picks up her solutions three times weekly at the Hartford Hospital pharmacy. Estimated yearly cost of the solutions is $30,000. (Currently, center dialysis at this institution costs about $12,000 to $15,000.)

Intestinal continuity is established and has been verified by barium studies. Diarrhea was a problem early after the return of peristalsis, but was symptomatically controlled at that time. The problem had subsided by the time of discharge. Currently, she is able to eat small portions of a soft diet and is having three to six semi-formed stools a day.

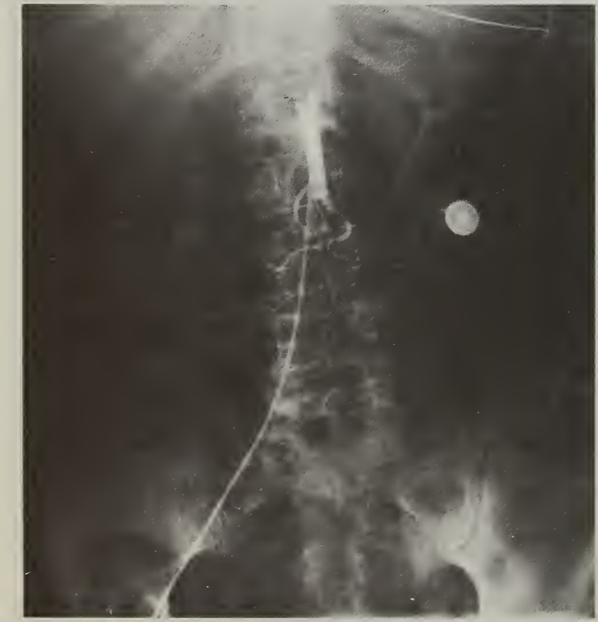

Figure 1
Flush aortogram

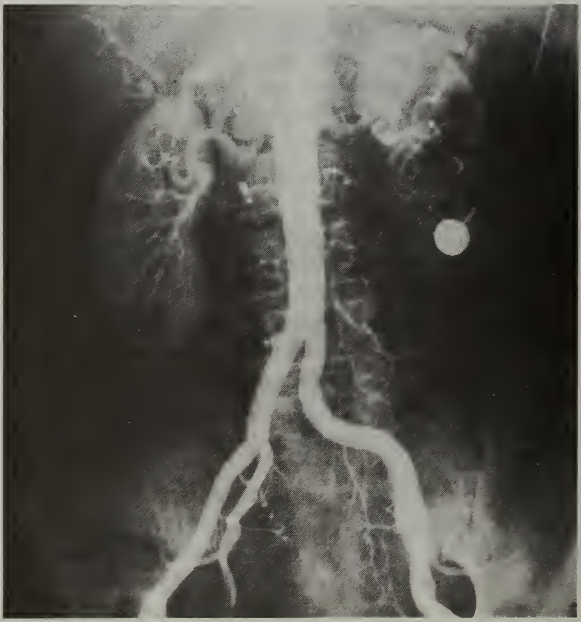

Figure 2
Selective SMA angiogram

Comment

Numerous reports in the literature and our own experience at Hartford Hospital have demonstrated that total parenteral nutrition (TPN) in the home is a feasible alternate lifestyle that can be accepted and managed by motivated patients.

The technique selected to administer the solutions varies, with the two most common methods being continuous infusion with a portable vest and by intermittent infusion via a pump system.

The reported complications are few. The most serious is that of catheter related systemic infection, i.e., sepsis secondary to an indwelling central venous catheter. Broviac and Scribner[2] report only six documented episodes of sepsis in 15 patient years of therapy, all of which responded promptly to catheter removal and appropriate antibiotic therapy. Jeejeebhoy, et al,[3] report a somewhat higher incidence of catheter related infection, but noted that this complication occurred largely in patients with continued intraperitoneal sources of infection. A long subcutaneous tunnel between the cutaneous entry and the venopuncture minimizes septic complications.

Hypoglycemic, insulin-type reactions have been reported with abrupt termination of high concentration glucose infusions. This complication can be avoided by the continuous infusion of solutions thereby eliminating any possibility of sudden cessation of high concentration glucose solutions. An alternative to continuous infusion of 25% glucose solutions is to change the carbohydrate component of the total caloric intake by increasing the percentage of calories supplied by fat emulsions (e.g., Intralipid), or simply by decreasing the percentage of glucose, providing adequate calories for maintenance can still be supplied. The resultant 10-12% glucose solutions have not been associated with the hypoglycemic reactions.

Thromboembolic phenomena occurred in three patients in the series by Broviac and Scribner, though only one of the three was felt due to a catheter related embolus. An additional problem encountered by some has been catheter migration. Various catheter designs and insertion techniques have been developed to now minimize this.

The feasibility of home TPN now necessitates a need for a reassessment of traditional surgical judgments regarding the viability of patients with major intra-abdominal catastrophes of an acute ischemic nature, resulting in the resection of all or most of the intestines. Reports of successful home TPN in patients with inflammatory bowel disease are frequent, and now there are increasing reports of survival on TPN in patients who have sustained a major vascular accident to the small bowel.

An interesting adaptive response to the intestine has been observed by Scheflan, et al.[4] They report a case in which a 77 year old patient underwent resection of necrotic bowel, leaving only 24 cms. of jejunem distal to the Ligament of Treitz which was anastomosed to the descending colon. TPN was begun in the immediate postoperative period, and was maintained at home when it became clear that enteral nutrition could not be tolerated. Four months later the patient resumed small oral feedings. Tolerance progressively increased until at nine months the patient was able to support himself nutritionally by the enteral route and was having semiformed stools. Subsequent autopsy after myocardial infarction afforded an opportunity to document changes in the remaining bowel. The jejunem was greatly dilated with a circumference of 18 cm. with plicae ranging from 2-5 mm. in height. The mesenteric length of the bowel was noted to have increased to 35 cms. and the anti-mesenteric length had increased to 56 cms. Hypertrophy, hyperplasia, dilation, and lengthening of the small bowel remnant had occurred to such a degree that alimentation could be resumed. This phenomenon also serves to highlight an important principle in the management of the ischemic mesenteric disease espoused by Boley[5] and others, that the absolute minimal resection should be done at the initial laparotomy and only then for frankly necrotic bowel. All bowel of questionable viability should be left behind, after aggressive attempts to improve perfusion, in order to maximize the potential for the recovery of all possible length.

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Non-Cardiogenic Pulmonary Edema Following Intravenous Pyelography

HARCHARN SINGH CHANN, M.D., ARNOLD M. KATZ, M.D.
AND FRANK C. MESSINEO, M.D.

Pulmonary edema is produced by an increase in the outflow of intravascular fluid into the interstitial and alveolar space of the lung. Most commonly, pulmonary edema is initiated by an imbalance of the hydrostatic and oncotic forces governing fluid movements across the pulmonary capillaries, or by an increase in the permeability of the alveolar capillary membrane (non-cardiac pulmonary edema).[1] Acute pulmonary edema following intravenous pyelography is rare; a recent review of 3,509 patients does not include acute pulmonary edema as a complication of intravenous pyelography,[2] although several cases of this entity have been reported.[2-5] In most, the reaction occurred during the first episode of exposure to the dye. The present report describes a patient who experienced acute pulmonary edema following intravenous pyelography after having had prior intravenous pyelograms without adverse reaction.

Case Report

A 40-year-old woman was admitted to the John Dempsey Hospital for evaluation of known bilateral congenital ureteral-pelvic junction obstruction. The patient had a satisfactory surgical correction of the left sided obstruction in 1955, and to relieve recurrent obstruction on the right side she underwent a pyeloplasty and stent implacement in May 1980. In June of 1980, an intravenous pyelogram was scheduled to evaluate the patency of the stent. There was no history of impaired renal function. The patient had undergone approximately ten intravenous pyelograms in the past with no adverse effects, the most recent one month prior to admission.

Past medical history included a post traumatic arthritis of the right shoulder that required a Neer prosthesis. There was no history of shortness of breath, chest pain, palpitation or cardiopulmonary disease. Admission laboratory values included a blood urea nitrogen of 7 mg/dl, serum creatinine of 0.7 mg/dl and normal serum electrolytes.

Prior to the pyelogram, the patient was premedicated with intravenous diazepam, after which 50cc of Renografin-60 (Diatrizoate Meglumine and Diatrozoate Sodium Injection U.S.P.) was injected slowly. Approximately ten minutes later the patient complained of shortness of breath, experienced wheezing, and produced large amounts of clear frothy sputum. She was treated immediately with an intravenous bolus injection of 50mg of diphenhydramine hydrochloride with no relief, but slow intravenous injection of 0.5 c of 1:1000 epinephrine resulted in a decrease in wheezing. A chest film at this time revealed diffuse interstitial and alveolar pulmonary edema with Kerly-B lines and evidence of fluid in the minor fissure. The cardiac silhouette was not enlarged (Figure 1A).

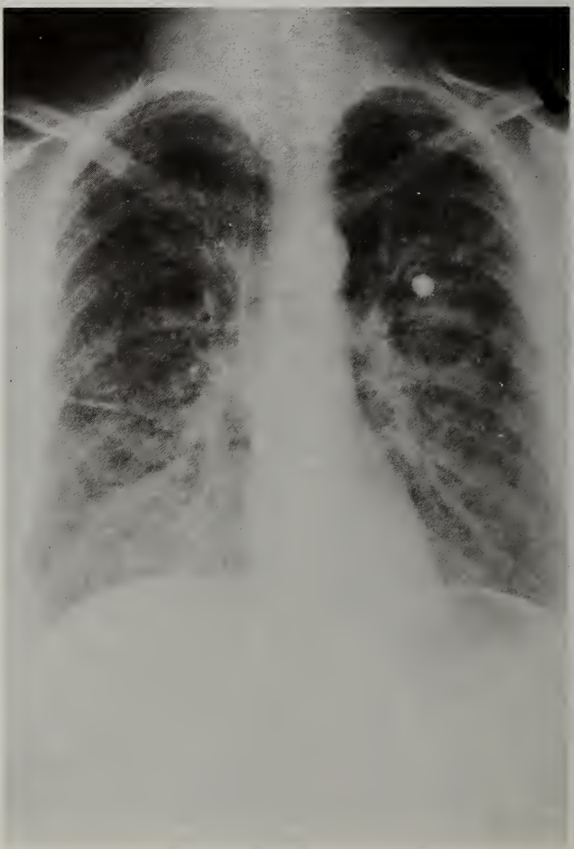

Figure 1A

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On transfer to the Intensive Care Unit the blood pressure was 80/60 mmHg, pulse 160/min. and respiratory rate 60/min. Physical exam revealed a conscious, acutely ill female in severe respiratory distress. Pulmonary auscultation demonstrated diffuse bilateral rales, and cardiac exam revealed no murmur or gallop sound. Initial arterial blood gases on 2 litres/min. of oxygen by nasal cannula were: pH 7.40, PaO_2 48 mmHg, and $PaCO_2$ 39 mmHg. The protein concentration of the clear, frothy edema fluid was 5.2 gm/dl with a simultaneous serum protein concentration of 7.0 gm/dl. The electrocardiogram showed sinus tachycardia and non-specific ST-T changes.

Treatment included intravenous fluids (5% dextrose with normal saline) at 150cc/hr. and 50mg. methylprednisolone given intravenously every six hours. Diphenhydramine 50mg was given by mouth every six hours. Despite initial hypotension, the patient's urine output did not decrease to less that 30cc/per hour during this episode, nor did she exhibit clinical evidence of cerebral hypoperfusion. Within eight hours the patient's respiratory distress subsided, at which time the blood pressure was 120/80 mmHg, pulse 96/min., respiratory rate 24/min. Arterial blood gases on 60% oxygen by Ventimask revealed a PaO_2 of 77 mmHg, $PaCO_2$ 37 mmHg and a pH of 7.44. Chest x-ray at this time showed partial clearing of the lung fields. Intravenous fluids were continued at 100 cc/hr. Thirty-six hours after the initial chest film, the chest x-ray had returned to normal (Figure 1B).

The patient was discharged from the hospital 72 hours after admission. Subsequent evaluation of the patient included a normal resting and stress radionuclide ventriculogram, echocardiogram and pulmonary function assessment.

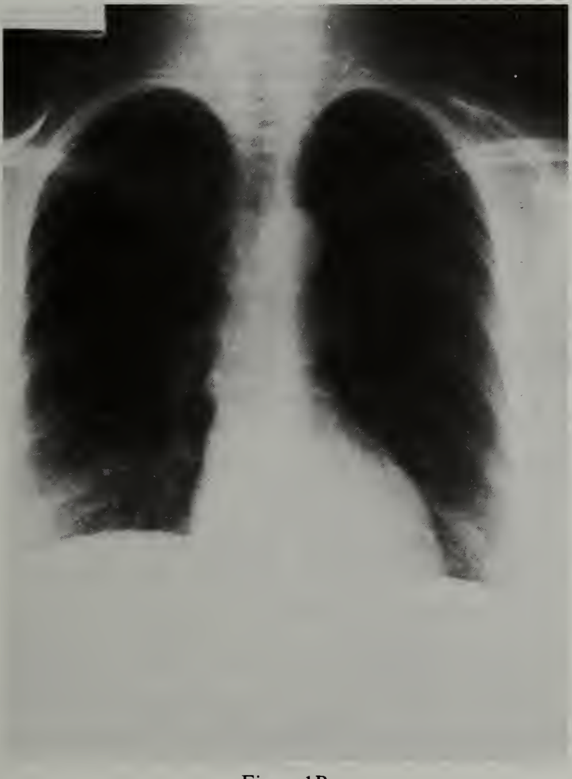

Figure 1B

Comments

Although pulmonary edema has not been included as a major complication of intravenous pyelography in several large series,[2, 16] a recent review by Lalli of 140 deaths associated with intravenous pyelography reported 24 patients with pulmonary edema listed as the cause of death, and evidence of pulmonary edema was found in 18 of 71 autopsied cases.[7] Lalli emphasized that pulmonary edema is a common complication of toxic doses of contrast material in both experimental animals and in reported cases of fatal overdosage in infants.[7, 8] Despite the relatively common post-mortem finding of pulmonary edema, few clinical reports characterizing this complication of urographic dye have appeared.[2-5]

In one early report Cameron postulated that an increase in the intravascular volume caused by the osmotic load of the contrast resulted in an elevation of the left ventricular filling pressure and subsequent cardiogenic pulmonary edema.[4] However, a recent report by Chamberlain et al.[3] documented the presence of contrast associated pulmonary edema coincident with a pulmonary capillary wedge pressure of 4 mmHg and pulmonary artery pressure of 26/6 mmHg. This low hydrostatic pressure and a concomittant high pulmonary edema fluid oncotic pressure led the authors to conclude that an increased pulmonary capillary permeability was the mechanism of edema development.

The present report describes a patient who experienced acute pulmonary edema after an intravenous injection of Renografin (Diatrizoate Meglumine and Diatrizoate Sodium U.S.P.). The aspirated edema fluid protein:serum protein ratio was 0.74, indicating that increased permeability of the alveolar capillary membrane was the mechanism of pulmonary edema in this patient.[9] Although the pathogenesis of increased alveolar capillary membrane permeability caused by urographic contrast material in our patient is not clear, these changes appeared to be mediated from the vascular side of the membrane, were transient, and were not followed by residual abnormalities of pulmonary function. Despite the presence of systemic hypotension, the patient remained alert and oriented and exhibited no signs of cerebral anoxia to implicate a neurogenic mechanism for pulmonary edema. Although it was not necessary to monitor pulmonary artery pressure in this case, the absence of systemic hypertension argues against shear stress-induced endothelial damage; a controversial mechanism of increased pulmonary capillary permeability.[1, 10]

Major reported complications of intravenous contrast material include urticaria, angioedema, bronchospasm, and hypotension.[2, 6] These characteristic complications suggest an immunological mechanism; however; the lack of specific IGE antibodies to the dye[11] and the frequent occurrence of a major complication in the absence of previous dye exposure argues against an antibody-mediated mechanism. In *in vitro* studies, contrast media has been reported to generate the anaphylatoxic components of complement,[12] C_3A and C_5A and to cause histamine release.[13] More recently complement activation by the alternative pathway has been demonstrated in asymptomatic patients after intravenous injection of radiographic contrast material.[14] As mediators of inflammation, these compounds are not only chemotactic, but also increase capillary membrane permeability,[11,12,17] and may participate in the pathogenesis of contrast reactions. Furthermore, these anaphylatoxins have also been suggested as mediators of the increased pulmonary capillary permeability observed during hemodialysis[18] and after cardiopulmonary bypass.[19]

This report presents further documentation that intravenous radiographic contrast material can precipitate increased permeability pulmonary edema and this reaction can occur despite uneventful previous exposure. Although the mechanism for this altered permeability is not clearly understood we agree with Chamberlain et al.[3] that a complement mediated pathogenesis is likely.

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Large Paraduodenal Mesenteric Cyst Causing Hydronephrosis and Displacement of the Common Bile Duct

JOSE ALVAREZ, JR., M.D. AND JOSEPH G. WIHBEY, M.D., F.A.C.S.

ABSTRACT—Large mesenteric cysts are rarely encountered in surgical practice. An extremely large cyst is reported in an unusual retroduodenal location elongating the bile duct, displacing the upper gastrointestinal tract, and compressing the ureter causing hydronephrosis. The diagnosis, management and incidence of mesenteric cysts is reviewed.

Large mesenteric cysts are rarely encountered in surgical practice and arouse interest and are usually a technical challenge when discovered. Diagnosis until recently was by indirect means but with the use of ultrasonography and computerized axial tomography greater preoperative accuracy has been achieved.

The following is a case report which illustrates the presentation and surgical management of a large cyst in an unusual location, the technical difficulties encountered during its extirpation and a review of the literature with a comparison to the Waterbury Hospital Health

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Center experience.

The unusual features of this large cyst were its retroduodenal location and the marked elongation of the common bile duct over it.

Case Report

The patient is a 31-year-old previously healthy woman, weighing 67 kg, presenting to her gynecologist with the chief complaint of a ten kilogram weight gain over the previous year despite dieting. She also related experiencing a bloated feeling even after small meals, her clothes felt tight around her waist and her menses were 15 days late. There were no other associated symptoms except for occasional mild abdominal discomfort which the patient attributed to menstruation. Social history, past medical history and family history were unremarkable. System review revealed congenital presence of seven toes on the right foot. Physical examination revealed a large ballotable mass occupying the right side of the abdomen and extending superiorly to 4 cm below the xiphoid process of the sternum. Vaginal examination revealed medial deviation of the right ovary by an extrinsic mass. The remainder of the physical examination was normal.

Laboratory examinations including complete blood count, electrolytes, urinalysis, chest X-ray, and electrocardiogram were normal. A pregnancy test was negative. An I.V.P. exam showed evidence of right hydronephrosis with medial deviation of the right ureter. A pelvic untrasound scan showed a large sonolucent homogeneous mass consistent with an ovarian cyst. She was admitted with this diagnosis for exploration.

At laparotomy through a lower midline incision, it became apparent that a huge cyst filled most of the peritoneal cavity (Figure 1). The incision was therefore extended to the xiphoid cartilage. The cyst was found to originate from the area of the retroperitoneum adjacent to the duodenum. Because of its large size, the stomach, pancreas, small bowel, transverse colon, and duodenum were all displaced into the left upper quadrant of the abdomen. The common bile duct was elongated, arching across the dome of the cyst to such a degree that it initially could not be differentiated from the fibrous strands surrounding the cyst wall. The common bile duct was 30 cm long and 4 mm wide and is noted under the operator's index finger in Figure 2. During the mobilization, a small bile leak was noted identifying the duct which was then carefully freed from the cystic wall. The cyst was dissected free intact from its retroduodenal area preserving the right kidney and displaced ureter, relieving the hydronephrosis (Figure 3). The small opening in the bile duct was closed over a T-tube which was brought out through a stab wound.

Pathology

The cyst measured 25 x 18 cm and weighed 10 kg. The wall was thin and surrounded by a fibrous reaction. Inside the cyst, straw colored acellular fluid was found with specific gravity of 1.008 and the same electrolyte composition as plasma.

Microscopic examination of the cyst wall showed it to have a simple flattened cellular lining surrounded by layers of connective tissue containing no muscular elements. Final pathological diagnosis was simple mesenteric cyst.

Discussion

Mesenteric cysts are rare. In 1948 Mercy Hospital in Chicago had only three recorded cases in 150,000 admissions and in 1941 Bronx Hospital in New York had only one case in 105,000 admissions.[2] In several reports their incidence has been calculated as being one in 100,000 hospital admissions.[1,2] The cyst described in this report is one of four recorded in 100,000 admissions at the Waterbury Hospital Health Center over a period of five years from January 1976 to March 1981. All four were benign, three were excised and one was aspirated. Benivieni of Florence, Italy in 1507 was the first to describe a mesenteric cyst located in the mesentery of the small bowel of an autopsy specimen. The first accurate account of a chylous cyst is credited

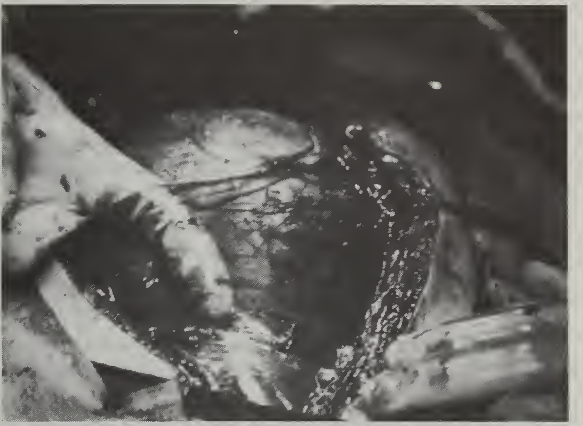

Figure 1

Large mesenteric duodenal cyst filling entire upper peritoneal cavity.

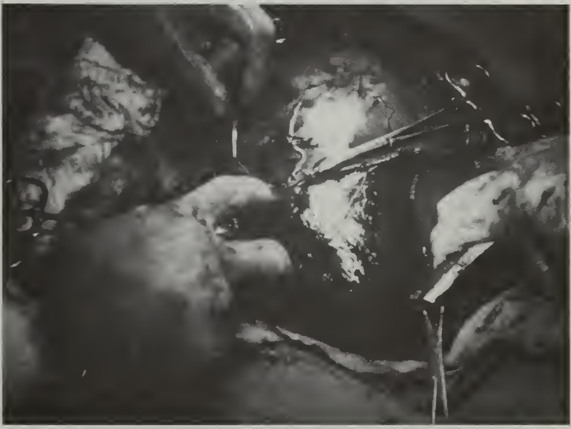

Figure 2

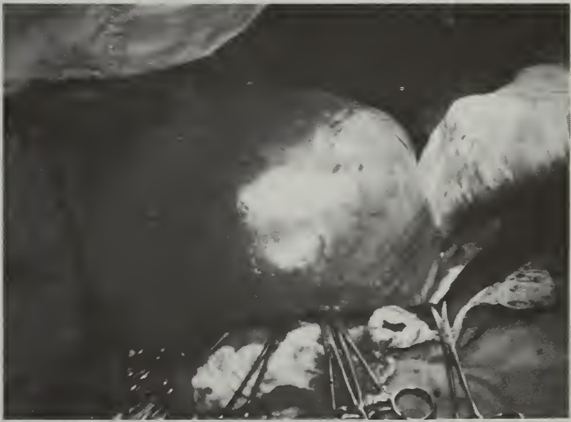

Figure 3

Cyst dissected free intact from the retroduodenal area.

to Rokitanski in 1842.[3] Tillaux performed the first successful cyst resection in the late 1800's.[4]

In 1950, Oliver Beahrs found 600 abdominal cysts of various types, added 174 cases and devised the current classification based on embryologic, traumatic, neoplastic, and infectious causes.[5] Currently investigators believe that these cysts arise from the continuous growth of congenitally malformed or malpositioned lymphatic tissue or from failure of fusion of the mesenteric leaves during development. Vaughn et al reported a 2 to 1 female to male ratio in their series.[6]

The majority of these cysts are asymptomatic when small. When they enlarge they can cause abdominal pain (the most common presenting symptom) by traction on the mesentery or by pressure on other intra-abdominal structures.

Cysts can mimic signs and symptoms caused by several other abdominal masses which include splenic cysts, pancreatic cysts or pseudocysts, massive hydronephrosis, ovarian neoplasms, pregnancy, giant uterine fibroids, low grade sarcomas and a host of other tumors. Occasionally they can rupture or cause obstruction of the G.I. tract, rarely they may cause hemorrhage.

Hardin and Hardy found one-third of their cases (2 of 6) to be malignant. However, they attribute their high incidence to a chance finding which does not correlate with the majority of series, which report most cysts to be benign.[2]

Preoperative workup of these rare clinical entities should include a careful history and physical examination, ultrasonography, computerized axial tomography, I.V.P., U.G.I. series, and barium enema. Frequently the diagnosis is not confirmed until the time of laparotomy.

Our case presented the unusual anatomic findings of marked elongation of the bile duct and displacement of the upper gastrointestinal tract. Caropresso in his 1974 review of mesenteric cysts[1] found that 50% arise from the small bowel mesentery, less than 5% from the retroperitoneum and could only find one case in the literature of a duodenal mesenteric cyst (1 of 200).

Optimum surgical management is enucleation of the cysts whenever possible. This is reported to obtain the lowest recurrence rate and the least morbidity. Simple aspiration of the cysts is not a recommended treatment since recurrence rates are high when the complete wall is not removed, and mortality rates of up to 33% have been reported.[7]

When enucleation is impossible, a segmental resection of the bowel along with removal of the cyst has been advocated. External marsupialization is not recommended since it has been found to result in fluid reaccumulations requiring multiple surgical procedures for cure.[2]

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Diabetic Nephropathy May Be Predictable

A preliminary study suggests that it may be possible to predict who is at high risk for developing diabetic nephropathy, report the Centers for Disease Control. According to the CDC's *Morbidity and Mortality Weekly Report,* a small case-controlled study by Georgia researchers found that diabetics at high risk include blacks, females, people from lower social classes, and rural residents. The latter two groups are more likely to develop end-stage renal disease, it was noted. Furthermore, contrary to previous research that showed an increased incidence of renal failure among juvenile-onset diabetics, the current study found that diabetics with onset after age 20 were more likely candidates for renal failure.

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Unexplained Parotid Enlargement: A Clue to Occult Bulimia

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ABSTRACT—The etiology of bilateral parotid gland swelling is usually clarified by thorough history, physical, and laboratory examination, possibly including sialography and labial or parotid biopsy. The patient described in this case report baffled her primary care physician and several consultants for two years until a history of overeating and surreptitious vomiting was obtained. Bulimia should be considered in any differential diagnosis of parotid enlargement, even when there is little evidence pointing to a nutritional disorder.

Introduction

Bulimia is a psychiatric eating disorder characterized by compulsive overeating and surreptitious self-induced vomiting. In contrast to anorexia nervosa, patients do not usually appear malnourished and their behavior is so secretive that it may go undetected for years.[1]

While several authors have described intermittent parotid enlargement in severely malnourished patients with self-induced vomiting,[2-4] only recently has an association between bulimia and intermittent parotid enlargement been recognized.[5] The present case illustrates that bulimic patients may also present with persistent and painful parotid enlargement. A knowledge of this association may avoid unnecessary diagnostic studies, ease the patient's discomfort, and facilitate proper psychiatric intervention.

Case Report

A female patient presented in March 1979 at age 27 to her primary care physician complaining of sudden, painful swelling of both parotid glands of 12 hours duration. She reported several similar episodes in the three preceding years while in graduate school. These episodes were unexplained and subsided after a few days. However, she reported persistent slight prominence of her parotid glands even between these exacerbations. The patient had no history to suggest a connective tissue disease, sarcoidosis, alcohol abuse, diabetes, liver or endocrine disease and her only medication was Propranalol 40mg twice a day for mild hypertension which was well controlled. The patient did admit to slightly dry eyes but wore contact lenses without difficulty.

On examination, her parotid glands were firm, tender and markedly enlarged measuring 6 cm in diameter. There was no discharge expressed from the parotid duct. Submandibular glands were also slightly prominent but were not tender. Except for mild facial acne, the remainder of her examination was normal.

Laboratory studies revealed a slightly elevated amylase of 212 units (normal less than 200 units), sedimentation rate of seven, a normal CBC, protein electrophoresis, SMA12 and chest X-ray. Antinuclear antibody and latex fixation tests were negative.

The patient's parotid enlargement subsided within a few days. From March 1979 through June 1981, the patient was seen with numerous, similar episodes. Repeat amylase level was normal and other lab studies continued to remain normal. The episodes gradually became less discrete and the patient was left with persistent, slightly tender, less firm but quite marked parotid swelling over this period of time.

Evaluation by two otolaryngologists during this period failed to reveal an etiology. Bilateral sialograms and biopsy of the minor salivary glands of the lower lip were negative. A biopsy of the right parotid gland showed very mild focal fibrosis and minimal, chronic inflammation. Repeated dilatation of the parotid ducts was performed without relief.

The patient did complain of menstrual irregularities over this two year period. Regular menstrual periods were interspersed with three to five month episodes of amenorrhea. This prompted further gynecological consultation and an extensive endocrine evaluation. All studies were again normal. On two occasions, serum electrolytes did show a mild hypokalemic alkalosis with serum bicarbonate of 31 mEq per L, and serum potassium of 3.2 mEq per L and 3.9 mEq per L.

In June 1981, the patient's father, after seeing a television movie about psychiatric eating disorders, confronted her with his concern that she was surreptitiously vomiting after meals. He urged her to discuss this with her physician.

A typical history of bulimia rapidly unfolded. The behavior of gorging on high carbohydrate, easily digested foods followed by profound guilty feelings and self-induced vomiting had begun at age 13. Initially infrequent, these episodes increased during the patient's college years. In 1976, while ill with typical Australia antigen positive hepatitis, the patient's weight decreased from 140 to 120 pounds and she became obsessed with the idea of maintaining her weight between 110 and 120 pounds, a rather ideal weight for her 63 inch height. In 1978, these gorging-vomiting cycles began to occur daily and often with all three meals. The vomiting was always concealed from others. The patient also began taking daily laxatives. During this period, she was troubled by personal problems and work-related pressure and even consulted a counselor but was too embarrassed by her eating behavior to discuss it with anyone. She denied organic symptoms of depression and did not appear clinically depressed during this period. The patient's weight fluctuated between 116 and 125 pounds from 1978 thru 1981 except for one period in 1980 when her weight decreased to 108 pounds. There were no wide fluctuations in weight. The patient never appeared malnourished.

Following this disclosure of her behavior, the patient has reportedly abstained from her compulsive gorging and vomiting for four months.

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After one week, her parotid glands had markedly decreased in size and soon were normal and non tender. They have remained normal over a four month period of observation. The patient has refused psychiatric counseling or group therapy and her longterm outlook remains guarded. She has focused on controlling her urge to overeat, has stopped laxatives, and along with her husband, who has been very supportive, has followed a structured diet plan. She has stated that she is satisfied with her weight which has remained stable at 120 pounds.

Discussion

Bulimia is an eating disorder much more common in women than men, characterized by a compulsive urge to overeat, followed by profound guilty feelings and often self-induced vomiting. The condition is far less obvious than anorexia nervosa in that patients are usually healthy in appearance and close to their ideal weight. They are more likely to menstruate regularly. Patients with bulimia are typically secretive about their eating behavior and it may go undetected by family and friends for years. Some authors have noted a much higher incidence of serious depression and suicidal tendencies in patients with bulimia as opposed to anorexia nervosa.[1]

Three case reports in the literature have pointed to an association between self-induced vomiting, severe malnutrition, marked hypokalemic alkalosis, and parotid enlargement.[2-4] Russell, in his review of thirty bulimic patients in 1979, mentions one patient with recurrent episodes of patotid enlargement.[1] More recently, Levin et al[5] have described seven patients with intermittent parotid gland enlargement and typical bulimia, unassociated with signs of severe malnutrition. These latter authors pointed out that conversation with psychiatrists caring for bulimic patients has led them to believe that recurrent, minor episodes of parotid enlargement are common in this group of patients. Parotid enlargement has not been described in large series of patients with typical anorexia nervosa. Diamant does mention, in his Semon Lecture of 1973,[6] a series of young women about age 20 with asymptomatic parotid gland enlargement and total amenorrhea, who made great efforts to lose weight. He likened their parotid glands to the enlargement seen in starving people. Whether Diamant's patients used vomiting to control their weight is not clear.

Not all patients with bulimia control the potential weight gain from their compulsive overeating with surreptitious vomiting. Some patients use purgatives alone or in addition to vomiting. Less commonly, prolonged starvation and excessive exercise are used. It is not certain from the literature if vomiting is the essential factor leading to parotid enlargement in bulimic patients, but this does appear to be the case. While several theories have been proposed to explain the association, the true mechanism is unknown.

In contrast to the experience of Levin et al,[5] whose patients had intermittent episodes of painless parotid enlargement, the present patient developed persistent and painful glandular enlargement. Perhaps the frequency of induced vomiting is a factor that can explain this. As in the one parotid gland biopsy reported by Levin et al, the patient described here also had a relatively normal parotid gland histologically.

In his review of 30 patients with bulimia, Russell[1] found that 55 percent had hypokalemia. He also noted that while amenorrhea is not as common in bulimia as in anorexia nervosa, it did occur in 40 percent of his patients. The presence of mild hypokalemic alkalosis and irregular menses in the present patient might have served as clues to earlier diagnosis.

It is clear that bulimia, especially when associated with self-induced vomiting, must be considered in any differential diagnosis of recurrent or chronic parotid gland enlargement. Helpful clues might be the presence of irregular menses and mild unexplained hypokalemic alkalosis. Occasional patients will show wide fluctuations in their weight. While most patients are very secretive about their behavior and unlikely to volunteer any information, Russell[1] points out that by the time these patients seek medical help, most are ready to discuss the habit which they have usually found very distressing. He found only four out of 27 patients who tried to conceal their compulsive vomiting at the time of their presentation. When questioning a patient, he advises using a series of graduated questions. Thus, after having first confirmed that the patient is prone to vomiting, the interviewer might inquire if the vomiting occurs especially after large meals or provides relief. If the last question is answered affirmatively, he suggests that the patient might then be asked whether the promise of relief sometimes leads her to encourage vomiting in some way.

Once a diagnosis of bulimia is reached, there is unfortunately no agreement on a completely successful form of treatment. The effectiveness of therapy with Phenytoin and antidepressants is equivocal. The most widely used methods are individual and group psychotherapy.[7] Russell[1] feels it is important to focus on overcoming the urge to overeat rather than the vomiting behavior itself.

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African Histoplasmosis in Connecticut

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ABSTRACT—Palatal infection by the fungus *H. capsulatum* var. *duboisii* (African histoplasmosis) in an immigrant from Portugese Guinea responded to amphotericin B therapy. This uniquely African disease should be included in the differential diagnosis when localized or disseminated granulomatous infection is encountered in a patient who has visited or lived in Central Africa.

Thousands of former Portugese colonials have migrated to Connecticut and the other New England states during the last decade. As a result of this influx, Connecticut physicians have a greater chance of encountering infectious diseases unique to Africa than in the past, when such disorders were detected only in the odd tourist, Peace Corps volunteer, businessman or student. We recently diagnosed African histoplasmosis in a resident of Bridgeport. His is the third case reported from North America.

Case Report

M.R., a 42-year-old Portugese male who immigrated to Connecticut in 1977 after residing in Portugese Guinea for 14 years, was seen for a persistent sore throat in December 1980. He had first noted symptoms about six years previously, while still in West Africa. Biopsy of an irregular, finely granular superficially ulcerated area on the left soft palate showed infection by *H. capsulatum* var *duboisii.* Physical examination, radiographic studies and bone marrow biopsy did not reveal disseminated disease. Both a histoplasmin skin test and a complement fixation test using native histoplasma antigen were non-reactive. Treatment with 800 mg of sulfamethoxazole and 160 mg of trimethoprim twice daily for six weeks did not alleviate symptoms; indeed, the lesion spread to the uvula and tonsillar pillars, and a rebiopsy in April 1981 contained viable organisms. Amphotericin B 50 mg every other day administered in a total dose of 1 gm resulted in complete clinical resolution.

Pathology: subepithelial aggregates of histiocytes and multinucleate giant cells contained 6 to 12 micra in diameter yeasts with a distinct one micron thick cell wall and a PAS-positive central body. Budding forms and short chains were numerous; where daughter cysts had recently separated there were sometimes thick collars or ridges ("bud scars"). Free organisms were seen in the epithelium and connective tissue adjacent to the granulomatous inflammation. The greater size of the yeasts, their tendency to form chains, and the presence of bud scars indicated that the organism was African *H. capsulatum* var *duboisii* rather than the American variety *H. capsulatum* var. *capsulatum.*[4]

Culture: Sabouraud's agar inoculated with tissue obtained at the second biopsy developed a white-tan silky growth after three weeks at 20C. Microscopic examination showed septate hyphae with round microaleuriospores and tuberculate macroaleuriospores common to both variants of *H. capsulatum.* Attempts to convert subcultures to the yeast phase at 35C were unsuccessful.

Discussion

The organism which causes African histoplasmosis, once considered a distinct species *H. duboisii,* has been demonstrated to be a variant of *H. capsulatum,* since both share a common perfect state *Emmonsiella capsulata.*[3]

All documented cases have been acquired in Central Africa, between the Sahara and Kalahari deserts.[1] Unlike American histoplasmosis (which also exists in Central Africa), the causative organism has not been isolated from the soil or from bird and bat droppings. The natural reservoir and the mode of transmission of *H. capsulatum* var. *duboisii* remain unknown.[5] It is of interest that both our patient and the first case diagnosed in North America ate baboon flesh while serving in the Portugese army in Guinea. Baboons contract the infection.

Not only does the epidemiology of African histoplasmosis differ from that of the American variety, but clinical features are dissimilar. Pulmonary involvement is rare. The commonest presentation is a localized granuloma in skin or subcutis. Osteomyelitis confined to a solitary bone is not uncommon. A disseminated form involving skin, bone, lymph nodes and abdominal viscera may evolve rapidly and cause death.[6] Involvement of the oral cavity by spread from contiguous bone has been described in a few patients with disseminated disease, but our case appears to be the first with primary infection localized to the mouth.[2]

Amphotericin B is the drug of choice. Some localized infections have been reported to respond to sulfamethoxazoletrimethoprim therapy;[4] this combination had no effect on our patient.

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Important Advances in Clinical Medicine

Epitomes of Progress—Nuclear Medicine

Meckel Diverticulum, Barrett Esophagus and Retained Gastric Antrum Syndrome

Scintigraphy using pertechnetate labeled with technetium 99m is a useful noninvasive diagnostic procedure for the localization of normal or ectopic gastric mucosa, as occurs in Meckel diverticulum, Barrett esophagus and retained gastric antrum after gastrectomy. Pertechnetate is a monovalent anion, as is chloride, and its mechanism of concentration appears to be similar. After administration of pertechnetate Tc 99m, gastric mucosa can be demonstrated with a conventional gamma camera technique as a hot spot.

Meckel diverticulum occurs in 1.5 percent to 3 percent of the general population, and in approximately 25 percent to 30 percent of these persons clinical symptoms will develop. Although ectopic gastric mucosa is found in less than 20 percent of all diverticula, it is present in nearly all cases associated with gastrointestinal bleeding. Use of barium contrast radiography or selective arteriography is often unsuccessful in establishing the diagnosis. In two combined studies using pertechnetate Tc 99m scans of 78 adults and 136 children, there were 50 true-positive, 137 true-negative, 12 false-positive and 15 false-negative test results. False-positive findings are frequently of surgical significance because they may actually indicate an abscess, appendicitis, peptic ulceration, hemangioma or intussusception. False-negative examination results occur in patients with insufficient gastric mucosa or necrosis of the diverticulum.

In Barrett esophagus, columnar gastric epithelium replaces the normal stratified squamous epithelium. The epithelium is usually located in the lower esophagus, occasionally in the mid-esophagus and rarely in the upper esophagus. Although the diagnosis is often made on the basis of clinical findings and a barium swallow study, the pertechnetate Tc 99m scan offers added specificity and delineates the extent of esophageal involvement.

Recurrent ulceration in patients following gastrectomies has multiple causes. If, in addition, high levels of circulating gastrin are found, Zollinger-Ellison syndrome or retained gastric antrum in the duodenal stump must be considered. Increased gastrin secretion is seen in the latter condition because the normal inhibitory effect of gastric acidity is absent. Because these two conditions are differentiated with difficulty, the pertechnetate Tc 99m scan is useful because only the retained gastric antrum syndrome will be associated with increased uptake of pertechnetate Tc 99m on scintigraphy.

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Hepatobiliary Imaging by Radionuclide Scintigraphy

Radionuclide imaging of the hepatobiliary system has been substantially improved with the introduction of compounds tagged with technetium 99m. The two radioactive pharmaceutical agents most commonly used are the N-substituted imino-diacetic acid (IDA) derivatives HIDA (dimethyl-IDA) labeled with ^{99m}Tc and PIPIDA (para-iso-propyl-IDA) labeled with ^{99m}Tc. These agents offer substantial advantages over the previously used agent rose bengal ^{131}I (8.1 days physical half-life), including a short six-hour physical half-life, better counting statistics and relatively low radiation dose to the patient.

The radionuclide is removed rapidly from the blood by the polygonal cells of the liver. The liver is visualized within 5 minutes, and within 15 to 30 minutes most of the radioactive material has been removed from the bloodstream and concentrated by the liver. The gallbladder is seen in 30 to 60 minutes, and radioactively is identified in the gastrointestinal tract usually by the end of the first hour.

These agents are capable of visualizing the biliary system at bilirubin levels of up to 8 mg per dl; at higher levels ($>$ 10 mg per dl), PIPIDA ^{99m}Tc is the preferred agent. This technique has a considerable advantage over intravenous cholangiography, in which biliary visualization diminishes rapidly when the bilirubin level rises to 2 to 4 mg per dl. Also, it provides an ideal study medium for patients who are allergic to radiographic contrast media.

Radionuclide cholescintigraphy has considerably reduced the need for intravenous cholangiography in the diagnosis of acute cholecystitis because a normal study in effect excludes this diagnosis. In jaundiced patients, it can be used to distinguish biliary tract obstruction from hepatocellular disease. These agents are also useful in determining postoperative patency of biliary anastomoses, in evaluating defects seen on technetium 99m sulfur colloid liver scans and in evaluating suspected biliary atresia in infants.

An important advantage of cholescintigraphy over ultrasonography and computed tomography is that the former provides both physiological and anatomical measures of hepatobiliary diseases, whereas the latter two provide only anatomical information.

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Serum Thyroglobulin Levels: Their Use in Monitoring Thyroid Carcinoma

The determination of serum thyroglobulin levels, a major thyroid protein prohormone and the site of synthesis of thyroid hormone, represents an important advance in monitoring the disease course patients with differentiated thyroid carcinoma. With the recent development of commercial radioimmunoassay kits for serum thyroglobulin, the assay will be more widely available to clinicians. It must be emphasized that thyroglobulin is *not* the same entity as thyroxine-binding globulin, a major binder of thyroid hormone in the blood.

In patients with papillary, follicular or mixed papillary-follicular tumors who have had subtotal thyroidectomy and subsequent ablation with iodide I 131, serum levels of thyroglobulin will become low or undetectable several weeks after treatment. However, thyroglobulin levels will be elevated in patients with widely metastatic disease. The level of thyroglobulin may be a more sensitive indicator of the presence of recurrent disease than standard iodide I 131 metastatic scans. In some cases thyroglobulin levels will be abnormal, while no abnormal uptake of radioactive iodine is noted on imaging. Other advantages of the technique include the ability to do the assay while the patient is receiving thyroid replacement therapy. However, if levels are undetectable, the assay should be repeated after terminating replacement therapy. Because thyroglobulin antibodies interfere with the assay and may invalidate results, the patient's serum specimens should be screened for antibodies before measuring thyroglobulin levels.

Thyroglobulin levels are useful indicators in patients rendered athyrotic because detectable levels of thyroglobulin can be identified in persons without thyroid disease and elevated levels can be seen in patients with autoimmune disease of the thyroid. However, the level of thyroglobulin is of no value in the separation of benign from malignant thyroid nodules.

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Regional Cerebral Blood Flow

In contrast to the qualitative estimate of cerebral blood flow obtained with a routine brain scan, a more precise estimation of regional cerebral blood flow can be obtained using freely diffusible xenon 133 gas. The washout of the radioactive gas from the head is monitored using either one or several radiation detection probes to calculate cerebral blood flow. Xenon 133 may be injected into the internal carotid artery by way of catheter or peripherally into a vein, or it may be inhaled and passed into the bloodstream by way of the pulmonary capillaries. Although the amount of blood flow in grey matter is of greatest importance, the probes can measure radioactivity in white matter and, with intravenously given or inhaled xenon 133, in extracerebral tissues as well. To differentiate between these compartments, washout is monitored for at least ten minutes. The first portion of the biphasic washout curve is assumed to be produced by activity in the grey matter, with the second portion primarily produced by activity in the white matter and extracerebral tissue. Equations derived from the Fick principle are applied to the curve to calculate regional blood flow in both white and grey matter. Sources of error include scattered radiation from outside the probe field of view, an unknown contribution to the count rate from extracerebral tissues and the pronounced effect of the partition coefficient (or differential solubility in tissue) of ^{133} Xe, which may vary greatly in areas of abnormal tissue.

In spite of the sources of error, the procedure provides sufficient information to be useful in the diagnosis and follow-up after surgical treatment of cerebrovascular disease. It is also useful in conditions of low blood flow such as dementia and after severe head injuries as well as to show the response to ventricular shunting in normal pressure hydrocephalus.

Because of the value of quantitating cerebral blood flow, better methods of estimation are being sought. One involves use of krypton 81m, a gas with a 13-second half-life, to show arterial flow. Others use an emission computed tomographic scanner, with a positron-emitting radionuclide to demonstrate distribution of blood flow in the brain. As yet, these methods are confined to a few research centers.

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Adrenal Scintigraphy

In 1970 iodocholesterol labeled with iodine 131 was introduced for scanning the adrenal glands. Since 1975 iodomethylnorcholesterol ^{131} I has been the agent of choice because of its higher organ-to-background ratio. Adrenal scintigraphy can be used to demonstrate adrenal structure and function in a manner similar to radioactive iodine scintigraphy being used for the thyroid gland. In more than 95 percent of cases of Cushing syndrome, the adrenal scan can differentiate between hyperplasia, carcinoma or adenoma. An autonomously functioning, unilateral, adrenal adenoma can be detected before the disease is evident clinically, even when the plasma cortisol levels are still normal.

Adrenal scintigraphy is the most sensitive method for localizing hyperfunctioning adrenal remnants following bilateral adrenalectomy. Adrenal suppression with dexamethasone can be used to demonstrate aldosterone- or androgen-producing adenomas which appear as a unilateral increase in uptake. The specificity of suppression scans for lateralizing aldosterone-secreting tumors is 94 percent. The advantage of this method is the elimination of adrenal arteriography and venography particularly when the scan demonstrates unilateral pathology. These radioactive cholesterol agents do not concentrate in medullary tissue; therefore, the procedure is less sensitive for pheochromocytomas which must be at least 2 cm in diameter and distort the cortical tissue before detection is possible.

Preliminary results of adrenal scanning indicate its potential benefit in low-renin essential hypertension. Patients with nonsuppressible adrenal glands responded well to spironolactone therapy; poor response to such therapy has been found with normal adrenal suppression.

Administration of corticosteroids will cause poor or absent adrenal uptake. Information about the patient's medication is important to avoid spurious interpretation of scan findings while the adrenal glands are being stimulated or suppressed in the course of endocrinologic evaluations.

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Radionuclide Technique for Detection of Acute Gastrointestinal Bleeding

One of the most challenging problems faced by clinicians in testing patients with acute gastrointestinal bleeding is locating the exact site of the bleeding. While angiography and endoscopy are excellent procedures, they are invasive, require well-trained personnel and present some risk to the patient. Radionuclide studies are noninvasive and are more sensitive than angiography in the detection of the bleeding site. The study can be done in a patient's room with a mobile camera and is of particular value for a patient who is too ill to undergo invasive studies.

A new radionuclide technique employed in the detection of gastrointestinal bleeding uses erythrocytes labeled in vivo with stannous pyrosphosphate ^{99m} Tc. Images of the abdomen are obtained immediately and repeated for up to three to four hours or longer, as necessary. Usually it takes less than 30 minutes to detect an active bleeding site. An advantage of this technique is its ability to detect occult or intermittent bleeding over a 24-hour period. Such sites can be identified in patients when the rate of bleeding is as slow as 0.3 ml per minute.

Another radionuclide agent employed in the detection of gastrointestinal bleeding is technetium 99m sulfur colloid, which is given intravenously. The colloid is cleared by the reticuloendothelial system so that the fraction of injected radioactive colloid that extravasates at the bleeding site can be seen as a focal accumulation of activity.

Rakhi Ram, MD
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Leukocyte Labeling With ^{111} In Oxine for Acute Inflammatory Disease

Because leukocytes are involved in the pathological process of inflammation, the ability to label and subsequently image their distribution in the body has long been of interest to both nuclear physicians and clinicians. Recently, a new radioactive agent for labeling leukocytes, indium-111 8-hydroxy quinoline (^{111} In oxine), has been described. This compound labels an intracellular component of the leukocytes. Indium is not eluted after labeling of cells and does not appear to alter the cells' biological function, survival or distribution.

Leukocytes are obtained from a patient's peripheral blood specimen and labeled in vitro with ^{111} In oxine. The autologously labeled leukocytes are injected back into the patient and whole-body imaging carried out. Abnormal radioactivity is observed at sites of leukocyte accumulation, including inflammation and abscess. Because of the high degree of specificity for detecting lesions with inflammatory infiltrates, this technique has been successful both in the identification and localization of abscesses.

Gallium-67 citrate is the alternative radioactive pharmaceutical agent used to detect abscesses. Because it may concentrate in neoplasms and is excreted in the bowel, its use in the detection of abscesses may result in misinterpretation of findings.

Recent comparative studies favor the use of the ^{111} In technique for abscess detection and indicate that it is superior to ^{67} Ga scans. A diagnostic accuracy rate of 92 percent has been reported for ^{111} In oxine leukocyte scanning, comparing favorably with accuracies of 96 percent for computed tomography and 90 percent for ultrasonography.

The disadvantages of this technique include the length and complexity of the labeling procedure and the limited availability and expense of the radionuclide. However, because of its potential diagnostic use, it is anticipated that this test will be more widely available in the future.

Myra V. Drickman, MD
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Detection of Acute Myocardial Infarction by Pyrophosphate ^{99m} Tc Scintigraphy

Six years ago the use of scintigraphy with pyrophosphate labeled with technetium 99m was introduced as a method to detect acute myocardial infarction (AMI). Subsequent experience has substantiated the initial reports of Bonte and Parkey, and a sensitivity in the range of 90 percent for detecting acute infarction has been observed. Ideally the study is done 36 to 48 hours after infarction has occurred, but positive studies have been reported during the first 24 hours. An early negative study should be followed up with a repeat test two to three days later.

Like most sensitive tests, this method is relatively nonspecific. For example, ventricular aneurysms, unstable angina, calcified valves and pericarditis have produced positive test results. Varying degrees of specificity can be attained, however, by grading the studies according to the pattern as well as the intensity of the activity in the myocardium. The measurement of 90 percent sensitivity for diagnosing AMI is based on a grading by intensity level as the only criterion for determining positive findings. If the pattern of cardiac activity is also graded as either diffuse throughout the myocardium or localized to a specific wall of the myocardium, then the sensitivity decreases but the specificity increases considerably. In a coronary care unit two thirds of the patients with AMI will have a localized pattern of activity on the scintigrams. The specificity of this finding is 95 percent. Over a fourth of the patients will have the highest intensity grade in addition to the localized pattern, and in these patients specificity will be 99 percent.

Myocardial scintigraphy using pyrophosphate ^{99m} Tc does not replace electrocardiography and should not be the first test ordered in evaluating a patient with chest pain. However, in those patients for whom a diagnosis remains uncertain, pyrophosphate scintigraphy can be extremely useful. In attempting to rule out AMI, a negative study offers a 90 percent probability that this diagnosis can be excluded. However, a localized pattern of the highest intensity grade is virtually diagnostic of AMI, and a localized pattern alone is very strong but not absolute evidence for AMI.

Kenneth P. Lyons, MD
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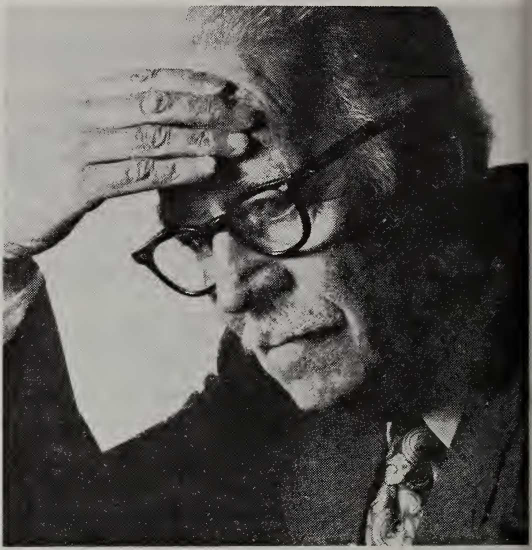

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Judicial Decisions Concerning Brain Death

J. MICHAEL EISNER, ESQ., LINDA L. RANDELL, ESQ.
AND JOHN Q. TILSON, ESQ.

Following is an annotated list of the principal cases involving brain death presented in reverse chronological order. We prepared this list in connection with the *Bacchiochi v. Johnson Mem. Hosp.* case, No. 256126, Super. Ct., Hartford-New Brit. (March 13, 1981), wherein Judge Hammer indicated that judicial intervention in brain death cases was unnecessary in Connecticut. Please refer to 45 CONNECTICUT MEDICINE 267, 334 (April and May, 1981). We have omitted cases where brain death merely is mentioned or where routine determinations have been made in accordance with a state brain death law. We chose 1968 as a cutoff date for research purposes since that is the year when the Harvard criteria were published.

Johnson v. Jago, 644 F. 2d. 885 (6th Cir. 1981). The federal Sixth Circuit Court of Appeals affirmed a district court denial of a writ of habeas corpus to a petitioner from Ohio who claimed that his murder conviction was unconstitutional in that death had occurred from an intervening cause, namely the removal of the life support systems. The Court, recognizing brain death by implication, held that there was no denial of his Constitutional rights and upheld the conviction. At trial, the jury recognized brain death: this finding had been upheld by the state court. *State v. Johnson,* 56 Ohio St. 2d 35, 381 N.E. 2d 637 (1978).

In re Bowman, 94 Wash. 2d 407, 617 P. 2d 731 (1980). This was an appeal by a guardian *ad litem* from a trial court decision that a child was dead by virtue of "brain death," and that "life support" equipment therefore could be withdrawn. The Supreme Court of Washington adopted the provisions of the Uniform Determination of Death Act as the law of the State of Washington. These provisions provide that:

> An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards.

The Court observed that "[i]t is left to the medical profession to define the acceptable practices [for determining when brain death has occurred], taking into account new knowledge of brain function and new diagnostic procedures."

Arizona v. Fierro, 124 Ariz. 182, 603 P. 2d 74 (1979). The Court held that the victim of a shooting was legally dead when he suffered brain death in spite of the absence of a state statute on the subject. The Court upheld expert testimony that brain death constituted death.

Lovato v. District Court, 601 P. 2d 1072 (Colo. 1979). Review of order of District Court granting guardian *ad litem* authority to remove life support systems. The Court held that even though Colorado had no statute on the subject, it was appropriate for the Court to adopt brain death as a legal standard for determining death. The Court held that:

> As the rule of this case and that to be followed until otherwise changed legislatively or judicially, we adopt the provisions of the proposed uniform Act. . . :
>
> > "For legal or medical purposes, an individual who has sustained irreversible cessation of all functioning of the brain, including the brain stem, is dead. A determination under this section must be made in accordance with reasonable medical standards."

Interestingly, the Court observed that "[c]onceivably, the common law might be interpreted broadly enough to include permanent cessation of brain function as one of the definitions of death. One of the common law definitions of death was 'cessation of life.' "

In re The Children's Hospital, Inc., Dist. Ct. Ramsey County, Minnesota, 2d Jud. Dist. July 11,

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1978. (This report is from a clipping in *Hospital Law,* November, 1978. We otherwise could not locate the case.) A district court judge held that life support equipment could be removed from a four-year-old who had shown no brain function for more than a month's time. The Court held that the common law recognizes brain death:

> [T]he common law definition of death has traditionally incorporated the prevailing standards in the medical profession. At an earlier time these standards would base a pronouncement of death upon absence of circulation and respiration, but that is no longer an accurate characterization of the prevailing medical standards... [T]he medical profession currently accepts the proposition that death may occur as a result of the "irreversible cessation of total brain function"....

Illinois v. Driver, 62 Ill. App. 3d 847, 379 N.E. 2d 840 (1978). Murder conviction upheld; the cause of death was the beating of a policeman causing brain death, not the removal of the respirator.

Cranmore v. State, 85 Wisc. 2d 722, 271 N.W. 2d 402 (1978). A jury finding of brain death as death upheld in spite of the fact that no Wisconsin statute recognized brain death.

Commonwealth v. Golston, 373 Mass. 249, 366 N.E. 2d 744 (1977), *cert. denied sub nom. Golston v. Massachusetts,* 434 U.S. 1039, 98 S. Ct. 777 (1978). Brain death accepted in context of murder case. The Court went so far as to note that the common law reference to cessation of respiration was to be read as meaning *spontaneous* respiration, implying that the Massachusetts court recognizes brain death as being within the common law definition of death.

Kansas v. Shaffer, 223 Kan. 244, 574 P. 2d 205 (1977). Kansas brain death statute held constitutional (not ambiguous and therefore not void for vagueness).

People v. Vanderford, 77 Mich. App. 370, 258 N.W. 2d 502 (1977). Criminal defendant had no standing to challenge the constitutionality of the state brain death statute.

Smith v. Wesley Medical Center, No. 77 C 460 Dist. Ct. Sedgwick County, Kansas, February 24, 1977. (I obtained this case from counsel at the time it was decided; I have been unable to find any other report of it.) The Court held that a child suffering brain death was medically and legally dead and dismissed the action which was to enjoin the termination of life support systems. *Accord, Saad v. Wesley Medical Center,* No. 79 C 3235 (Kans. 18th Jud. Dist. Jan. 4, 1979), cited by *Ufford,* "Brain Death," Specialty Law Digest.

New York Health and Hospitals Corp. v. Sulsona, 81 Misc. 2d 1002, 367 N.Y.S. 2d 686 (1975). Brain death may be used for purposes of the state anatomical donation statute which failed to provide a definition of death. The adoption of the statute, said the court, implied the legislature's recognition of brain death.

People v. Saldana, 47 Cal. App. 3d, 121 Cal. Rptr. 243 (1975). Brain death recognized in homicide case.

Tucker's Administrator v. Lower, No. 2831 (Ct. L. & Eq. Richmond Va. 1972) (Cited by Ufford, "Brain Death," Specialty Law Digest.) Defendant physicians found not liable for wrongful removal of heart, the Court holding that death occurred when the brain died. Ufford also cites an unreported 1974 California case, Superior Court Oakland, May 21, 1974, wherein a trial court adopted brain death for purposes of a murder trial prior to enactment of the California brain death statute.

In addition, we have located a 1976 arbitration case, *Whirlpool Corp.,* 76-1 ARB 8027, wherein the arbitrator held that an employee had "lost his life" within the meaning of an insurance policy at the time when he continued to exist solely by use of a respirator without hope of recovery. We also have record of newspaper reports of a 1975 case in Hawaii where a judge was reported to have ordered discontinuance of a respirator in a situation where the patient met the criteria of brain death.

While we do not claim that the above listing is exhaustive, it probably covers most of the cases. Significantly, we have been unable to locate any recent decision in which a court refused to accept or to permit a jury to use brain death as a valid definition of death.

Comfort Measures Only for "DNR" Orders

JOHN J. PARIS, S.J.

The Biblical injunction "there is a time to live and a time to die" is severely challenged by the resuscitation practices in many hospitals where in the words of one observer: "Very few people 'die'; they 'arrest'." The response to that "arrest" has undergone a profound shift in the past few decades. Much of the credit for that change goes to the landmark 1974 AMA Report on Standards for Cardiopulmonary Resuscitation (CPR).[1] That Report set standards and initiated a massive and highly effective CPR training program.

The Report of the National Conference of the American Heart Association also made it clear that:

> *The purpose of cardiopulmonary resuscitation is the prevention of sudden, unexpected death. Cardiopulmonary resuscitation is not indicated in certain situations, such as in cases of terminal irreversible illness where death is not unexpected or where prolonged cardiac arrest dictates the futility of resuscitation efforts. Resuscitation in these circumstances may represent a positive violation of an individual's right to die with dignity. When CPR is considered to be contraindicated for hospital patients, it is appropriate to indicate this in the patient's progress notes. It also is appropriate to indicate this on the physician's order sheet for the benefit of nurses and other personnel who may be called upon to initiate or participate in cardiopulmonary resuscitation.*

That thoughtful and carefully formulated statement has been all but forgotten as paramedics, nurses and physicians trained in the new life-saving techniques respond like firemen answering an alarm with "crash carts" and portable defibrillators to "Code Blues." In the words of Dr. Mitchell Rabkin, President of Boston's Beth Israel Hospital, "When the bell rings, you run!"

That response pattern soon led to attempted resuscitations for virtually all in-hospital deaths regardless of individual medical history and prognosis. Lampton and Winship of the University of Missouri School of Medicine report that "In an attempt to fully implement these lifesaving programs many medical staffs adopted universal, hospital-wide policies stating that CPR would be instituted on all patients experiencing sudden and unexpected cardiopulmonary arrest." They observe that "Ultimately, it appears that many persons view CPR as a mandatory activity for all patients dying in a hospital."[2]

Spenser, in a marvelously insightful and humane essay, noted that tendency has evolved into a fixed policy of attempting to overcome the death of all patients unless the physician has written a specific "no-code" order.[3] The result is that physicians find themselves in the paradoxical position of having to write a negative, inhibiting type order to protect their terminally ill patients from unwanted intrusions into their dying.

A further complication in this litigation-conscious era is that physicians are now looking to the courts and the legal profession for guidance and protection on the proper treatment of the dying patient. They are also asking families to share the burden of responsibility for such decisions to a degree that Spenser states would have been unthinkable just a few years ago.

How we got ourselves into this predicament and possible resolutions of it was the subject of a two-day hearing this spring by the President's Commission for the Study of Ethical Problems in Medicine. Held in Boston to take advantage of the medical and legal resources of an area in which many of these developments have taken place, the Commission heard a wide variety of invited and public commentators.

The fullest explanation was provided by Beth Israel's Dr. Rabkin who testified that before his institution's well known 1976 "Orders Not to Resuscitate"[4] direc-

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tive was put into operation "a significant percentage of patients who died received cardiopulmonary resuscitation upon their quietus even though it was acknowledged that the resuscitation efforts for many would be useless." In his words: "The emergency code was called, and all of the troops—cardiologists, anesthetists, nurses, respiratory therapists, and others—responded in full."

The folly of that policy was symbolized for Rabkin when he came across a nurse standing in the corridor, weeping, outside the room of her patient, an octogenarian with widespread terminal cancer. He had just stopped breathing, the code had been called by someone, and a horde of professionals was applying intravenous medication and fluid, and electrical current to stimulate the heart, and the anesthetist was ventilating the patient mechanically through an endotracheal tube just inserted—all to no avail of course. "Why can't they just let him die in peace?" wept the nurse.

The answer was straight forward and hinted at in the 1976 Beth Israel directive:

> Both as a standard of medical care and a statement of philosophy, it is the general policy of hospitals to act affirmatively to preserve the life of all patients, including persons who suffer from irreversibly terminal illness. It is essential that all hospital staff understand this policy and act accordingly.

That pro-life policy, good in itself, was so rigidly interpreted that a DNR order could be entered only after a determination that the patient was "irreversibly and irreparably ill and death was imminent" (will occur within two weeks), an ad hoc committee of senior physicians and nurses concurred in that evaluation, and the informed choice of the competent patient (or full family of an incompetent) was given. If in the judgment of the responsible physician the patient would be unable to cope psychologically with the consent stipulation, no order could be written. Consequently, the most psychologically fragile patients faced the unanticipated and probably frightful prospect of full CPR should they "arrest." Thus a misplaced emphasis on patient autonomy and informed consent pressured the dying patient into the trauma of a code/no-code choice as his or her final discretionary decision.

Several years' experience with those stringent stipulations and the increasing realization that "these ill-considered resuscitation efforts in no way represent an affirmative act to preserve life" led the medical staff to rewrite the DNR policy. The 1981 "Guidelines: Orders Not to Resuscitate" omits the attempt to define the candidates for DNR orders; it leaves that determination to the judgment of the attending physician. Rather, the policy specifies the process by which such possibilities are to be considered and orders written. It also does away with the bureaucratic ad hoc committee and substitutes the notification of the Chief of Service that such an order has been given.

In a dramatic shift the "Guidelines" state:

> If in the opinion of the attending physician the competent patient might be harmed by a full discussion of whether resuscitation would be appropriate in the event of an arrest, the competent patient should be spared the discussion; therefore if the physician and the Chief of Service deem a DNR order appropriate and the family members are in agreement that the discussion might harm the patient and that resuscitation is not appropriate, a DNR order may be entered by the physician.

This new policy which recognizes the difference between an automaton and an autonomous patient conforms to Spenser's insight that explanations of DNR orders to dying patients "are thoughtless to the point of being cruel except for the extremely unlikely case where the patient himself inquires."[5]

Rabkin reports that the major impact of the new Beth Israel policy has been to allow more open discussion among care-givers on the appropriateness of orders not to resuscitate any given patient. A concomitant benefit has been a significant decline in quasi-orders such as, "Walk, don't run," "Page but don't stat page"—that is, emergency page—and "Do not intubate if a code is called."

Partial orders such as these, which Goldenring caricatures as "Light Blue, Sky Blue, Navy Blue, and Dark Blue Codes," not only place unwarranted burdens on the hospital staff, waste their time and energy, and lead to frustration, they are, in Goldenring's explicit phrasing "an ethical fraud."

Under the "Guidelines" a code will be called as any other serious medical intervention is done: as a well-considered affirmative act to benefit the patient. As such, when a code is issued the staff can respond knowing that they will not be deliberately imposing a final useless indignity on the end of life.

The President's Commission had an opportunity to test these theories against the experiences of a community hospital-based physician, Dr. Albert Fine, the ICU Director of Somerville Hospital. In unusually candid and direct testimony Dr. Fine described the difficulties he encountered with DNR orders in a Boston working class neighborhood.

Though he believes his hospital's directives are "virtually a carbon copy of the excellent Beth Israel policy," he very often finds himself wanting to write a "do not resuscitate" order but is unable to do so because "we cannot comply with the regulations as written." He attributes part of that problem to the different respect for life and death among the large Italian, Irish, and Portuguese population in his community. In his description: "To discuss with the family the issue of 'do not resuscitate' is interpreted by the family—and despite how we try we cannot change this interpretation—that their allowing us to write such an order is really a condemnation of their loved one to death, and with this the attendant guilt-feeling of having essentially killed a relative."

A yet further difficulty encountered by Fine at a community hospital is that all of the doctors are private physicians and many of the older ones, apparently sharing much of the value structure of the ethnic families, are extremely hesitant to even consider writing DNR orders.

The reluctance of families and physicians at Somerville Hospital even to consider DNR orders is a reflection, in part, of the utterly awkward way in which the issue is generally broached. Asked: "If your mother's heart stops, do you want us to try to save her life?" the answer will inevitably be, "Yes." Rare, indeed, is the individual who would want to accept direct responsibility for that death. Alternatively, if the physician carefully explains the woman's terminal condition, her prognosis, and the fact that no aggressive interventions can reverse the condition—and then asks, "Given those conditions do you believe your mother would want only to be kept as comfortable as possible?" the response will undoubtedly be, "Yes, that is what she would want."

The acceptance of the inevitability of death as part of the human condition is a wholly different issue from being asked to omit a potentially life-saving action. The question, therefore, ought to be put in a positive fashion—"What treatments are appropriate for this patient?"

It should be clear that with or without ventilators, intubation, and circulatory assistance patients will die; all of them need not be subjected to such treatments in order to die! As the 1974 AMA statement made clear, cardiopulmonary resuscitation is not indicated in those patients whose underlying condition is one of rapid and inevitable progression to death. In such cases when an arrest does occur, the physician's role is aptly summed up by Petty's essay: "Don't Just Do Something—Stand There!"[7]

If a psychological inhibition against non-treatment prevents families and physicians from ordering only appropriate treatments for the dying patient, and a change in approach is able to produce different results—results desired by the patient, agreed to by the family, and thought fitting by the physician—it is time to alter the way the question is asked. Let us omit the negative connotation of "do not resuscitate" and substitute the more positive orientation of a "Comfort Measures Only" order.

Such a shift might also make it easier for physicians to write such orders. Some share the family guilt; some fear that DNR statements condemn the patient to non-care; and some are aware that staff frequently misinterpret DNR to mean that one undertakes *no* treatment for the dying patient. In the words of one ICU physician, "If I write a DNR order some of the staff would be reluctant to clear mucus from a gaging patient." A "CMO" order would allow the staff to do what they believe necessary to keep the patient comfortable while establishing limits to the treatment activity.

Dr. Fine's comments on the inevitability of death and the need for medical personnel to come to grips with that fact of life found support in the comments of Dr. Ned Cassem, a psychiatrist at Massachusetts General Hospital and chairman of its Critical Care Committee. Cassem, whose essay, "Treatment Decisions in Irreversible Illness,"[8] is a model of common sense and clarity, began by reminding the Commission that "many people die in spite of resuscitation efforts." By his estimate two-thirds of all resuscitation efforts fail. The percent of failures greatly increases if sudden and unexpected arrests are dropped from the survey.

Massachusetts General, like Beth Israel, began a systematic review of its resuscitation policy in the early 1970's in response to nurse and family complaints about over aggressive treatment of the dying. Today, in the 1100-bed hospital an average of 30 patients will have a DNR order. Again like Beth Israel, MGH's policy is more process than guidelines on who should be treated. The order must be written in the chart along with a description of the patient's condition and mental status. There must also be a record of the discussion with the family and patient.

As Cassem describes the policy, "If anything can be done to restore the patient's health, then all our technology is at the patient's disposal. On the other hand—and there should be no secret about it—we don't run the hospital to experiment on people to keep them alive beyond some time when all they do is suffer." In very simple language, "If the treatment helps, do it; if it doesn't, don't."

The way the policy works in practice is that a recommendation is given to the patient or to the family by the attending physician and then an individualized judgment is made by the patient or the family on that recommendation. This is done as routinely as any other major medical decision in the hospital. There is no special committee involved and no particularized notice given to the Chief of Service.

Cassem specifically rejected what he labeled the "paranoid position" that you cannot rely on the patients' families to speak on their behalf. And he adamantly opposed a policy of treating to avoid fear of malpractice or litigation: "We are in the business of making people better and when we can't do that, no matter what somebody threatens under pain of lawsuit, it still doesn't make any sense to do this to people."

Cassem's final point—fear of litigation—is the generally unspoken factor that drives many physicians and institutions to overtreat dying patients. Dr. Fine put it bluntly when he testified that "lawyers or courts or our interpretation of what has happened has put us on a merry-go-round." As he describes the current malaise, nomophobia—an irrational fear of the law—is the prevailing sentiment. "Older physicians are afraid of putting 'do not resuscitate' down because they are afraid of being sued for making a wrong decision. The younger physicians are anxious to put down a 'do not resuscitate' because they are afraid of being sued for making a wrong decision. The nurses will not refrain from acting without a 'do not resuscitate' because they are afraid of being sued."

These attitudes result in an overreliance by physicians on lawyers and hospital counsel for DNR decisions, in DNR orders reading, as does Somerville Hospital's: "(1) Cases Not Requiring Judicial Approval; (2) Illustrative Cases of Incompetent Patient Requiring Prior Judicial Approval" (Might it be this legalese which causes much, if not all, of that institution's problems with family and physicians?); and in such absurdities as that reported by Lampton and Winship: "Our discussions with legal counsels of hospitals and professional groups suggest that if CPR for one and all is considered the standard practice, then a "No Code Blue" order *may not* be binding on the emergency physician and nurse who are at the patient's bedside in our absence. Thus such an order would be a nonsequitur."[9]

In what might be taken as the ludicrus culmination of that "fear-oriented behavior," David Spackman, legal counsel for Boston City Hospital, reported that he finally formulated a DNR policy at his institution as a management tactic because "I was tired of getting phone calls after phone calls after phone calls essentially asking the same kind of procedural questions."

Despite the fact that Spackman concludes the BCH policy with the announcement that "any physician may contact hospital counsel directly in issues regarding DNR orders," he notes in his testimony before the Commission, "I have never felt I had to go to court on a DNR order." In fact he indicated that physicians are overly concerned with eliminating risk in the practice of medicine. Further he states courts are neither oriented toward nor interested in providing rubber stamp immunity for what are, in fact, medical decisions, simply to protect physicians from perceived risks.

Spackman is concerned to avoid an overly strict DNR procedure, one which would frighten physicians and put-off families. To do that he believes it important "to eliminate as much as possible a reliance on courts and the impression that court orders are going to be appropriate and should constantly be thought of." His observation is precisely on point. Any policy which begins with the reminder that judicial approbation may be necessary or ends with the exhortation to call the Administrator before seeking legal counsel in treatment-decisions is bound to contribute to the skittishness of an already nervous profession.

That nervousness is compounded in Massachusetts where a small but highly vocal and influential group of attorneys press for ever increasing court involvement in medical-treatment decisions, e.g., Jonathan Brant, the former Assistant Attorney General, testified that "When the issue is withholding of treatment or termination of treatment and the treatment offers some probability of continuation of life, then I believe the decision should be made in court—irrespective of whether there is family." That general policy may make for a good litigation practice; it does not make for good medicine.

Throughout the Commission hearings on DNR policy, two themes were evident. (1) There is an over reliance on legal considerations in non-treatment decisions, an attention Fine believes is "not all to the benefit of the individual." And (2) there is the need for more open communication between family and staff on the fundamental issue of the appropriate care of the dying patient.

The clearest voice on these topics is that of Dr. Arnold Relman, the Editor of *The New England Journal of Medicine:*

> These decisions happen every day, many times a day, in every busy hospital in the world. And decisions have been made from time immemorial. And there is a long and honorable and I think generally socially accepted tradition for how you proceed . . . And the tradition is that doctors work closely . . . with the next of kin to try to find out what they think the patient would have wanted. And it seems to me that unless there are no family or guardian, or unless there are differences of opinion, very sharp differences of opinion, that system which has been accepted for so long ought to be allowed to continue without unnecessary interference by the courts.

Further, Relman concluded, "There is no way for good, humane medical decisions reliably to be made in the courts."

His view was echoed by the one court to address the DNR issue. In the *Dinnerstein* case the Massachusetts Court of Appeals ruled:

> [The issue of DNR orders] is a question peculiarly within the competence of the medical profession of what measures are appropriate to ease the imminent passing of an irreversibly, terminally ill patient in light of the patient's history and condition and the wishes of her family. That question is not one for judicial decision, but one for the attending physician in keeping with the highest traditions of his profession.[10]

Ultimately the decision is a moral one, one based on a response to Rabkin's question: "Are we acting appropriately to preserve a life or are we actually abusing the patient?" Addressing that issue the Vatican's recent *Declaration on Euthanasia*[11] reminds us of the centuries old teaching that no one need undergo treatment when its use "would only secure a precarious and burdensome prolongation of life." If the treatment does not offer a reasonable hope of success, if it only prolongs the dying, it is worse than useless; it is an indignity against our humanity.

At that stage it is not futile maneuvers and struggle that are called for. Nor is there need for judicial direction. What is needed are dignity and comfort measures. And they are what the physician should order.

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AMA Stand on Student Loans

The Administration's proposal to limit the government's Guaranteed Student Loan Program to undergraduate students should be rejected, the AMA said in statements submitted to two congressional subcommittees. Stressing that "the future health of this nation is largely dependent upon our medical schools being able to attract the most qualified students," the AMA said the savings envisioned by the Administration "will be at substantial long-term expense as professional schools could increasingly become accessible only to the wealthy."

Limiting the GSL program to undergraduates would cut off approximately $190 million in aid that was used by more than 40,000 medical students in the last academic year, the AMA told a House Appropriations subcommittee and a House Education and Labor subcommittee. The Association pointed out that the $190 million is almost half of the total amount of aid available to medical students.

Rising Tuitions

The AMA said the proposal to remove this financial aid, which was used by 72% of all medical students over the past two years, comes at a time of rising tuition costs and shrinking sources of market-rate loans. The average tuition for a private medical school this year is $9,108 and the cost over four years ranges between $25,100 and $91,800, the AMA stated. It noted that the loan pool of the Health Education Assistance Loan Program has been greatly reduced and that no new funds have been appropriated for the Health Professions Student Loan Program.

The Administration's plan to bolster the federal-state Auxiliary Loan Program as the primary mechanism for assisting graduate and professional students "would not come close to filling the gap" created by the limitations placed on the GSL program, the AMA said. The Auxiliary Loan Program has potential, the Association said, but only 27 states have passed implementing laws and only three of these have actually made the program operational.

—*AMA Newsletter,* March 22, 1982

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Right to Die

(First of Two Parts)

In re Quinlan, 70 N.J. 10, 355 A. 2d 647 (1976) **Supreme Court of New Jersey**

The Case

Karen Ann Quinlan, 21, a New Jersey resident, was in a persistent vegetative state as a result of respiratory arrest in April, 1975. Her father, Joseph Quinlan, sought court appointment as her guardian. In addition, he sought the express power of authorizing the discontinuance of all extraordinary procedures for sustaining his daughter's vital life processes.

The lower court refused to grant the requested relief, arguing that decisions should be left in the hands of the medical profession. (*In re Quinlan,* 137 N.J. Super 227, 348 A2d 801 [Ch. Div. 1975])

The father appealed the decision to the New Jersey Supreme Court.

Opinion of the Court

In a landmark decision handed down on March 31, 1976, the New Jersey Supreme Court reversed the lower court and granted the relief sought by Karen Quinlan's father.

It upheld Karen Quinlan's constitutional right of privacy, ruling that "The termination of treatment pursuant to the right of privacy is, within the limitations of this case, *ipso facto* lawful."* In balancing any State interest in regard to such a right, the Court cited Miss Quinlan's dim prognosis as overcoming any state interest:

> We think that the State's interest *contra* weakens and the individual's right to privacy grows as the degree of bodily invasion increases and the prognosis dims. Ultimately there comes a point at which the individual's rights overcome the State interest.

The court further concluded that "Karen's right of privacy may be asserted on her behalf by her guardian under the peculiar circumstances here present."

The Court addressed the arguments advanced on constitutional grounds and found inapplicable those based on free exercise of religion and 8th amendment protection against cruel and unusual punishment.

The court appointed Mr. Quinlan her guardian, transferring to him the choice of attending physician. The court then summarized its relief by stating that if Karen's guardian, family and attending physicians concur that "there is no reasonable possibility of Karen ever emerging from her present comatose condition to a cognitive, sapient state and that life-support apparatus . . . should be discontinued, they shall consult with the hospital "Ethics Committee" or a like body of the hospital where Karen is being hospitalized." If that consultative body agrees with the prognosis, life-support may be withdrawn "without any civil or criminal liability . . . on the part of any participant . . . ."

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*There has been judicial disagreement as to the exact Constitutional source of the right of privacy. In its 1973 decision in Roe v. Wade, 410 U.S. 113, the U.S. Supreme Court preferred to find the right of privacy in the 14th Amendment's concept of personal liberty and restriction upon state action, but it also noted that the Court and individual Justices have found such a right in the 1st, 4th, 5th and 9th amendments and in the penumbra of the Bill of Rights.

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A set of eight Fact Sheets dealing with such legal cases is available for $3.00 at the above address.

Implications

The Quinlan case represents the first judicial decision to enunciate the constitutional right of privacy as the basis for withholding or withdrawing life-support from a terminal patient. It leaves decision-making to the guardian, family and physician with review by a hospital "Ethics Committee" but without need for judicial review.

The court declared that "Decision-making within health care . . . should be controlled primarily within the patient-doctor-family relationship." The necessity of applying to the courts to confirm such decisions would be "inappropriate" and "impossibly cumbersome." This approach was later rejected by courts in Massachusetts and New York. (See *Belchertown State School v. Saikewicz,* 370 N.E. 2d 417 (Mass., 1977)—Fact Sheet #2; *In re Spring,* 405 N.E. 2d 115 (Mass.,1980)—Fact Sheet #6; and *In re Eichner,* 73 App. Div. 2d 431 (N.Y., 1980)—Fact Sheet #8.

Note: Karen Quinlan was removed from the respirator in May, 1976. She was transferred to a New Jersey nursing home where she remains in a vegetative state, reportedly weighing 68 pounds and sustained by naso-gastric feedings and antibiotics. *(October, 1981)*

Superintendent of Belchertown State School vs. Saikewicz, 373 Mass. 728, 370 N.E. 2nd 417 (Mass. 1977)

Massachusetts Supreme Judicial Court

The Case

Joseph Saikewicz was a 67-year-old patient at a State mental health facility. He was profoundly retarted, having an IQ of 10, a mental age of a two-and-a-half year old and an inability to communicate verbally. A week after he was diagnosed as suffering from an incurable form of leukemia, the superintendent of the facility petitioned the probate court for the appointment of a guardian to make decisions concerning his care and specifically whether he should receive chemotherapy threatment with its painful side effects. The guardian *ad litem* and two physicians testified against such treatment because of the fear and pain Saikewicz would have to endure, compounded by his inability to understand the procedure. The probate court accepted the recommendation against treatment, finding that any favorable factors were outweighed by the patient's age, inability to cooperate with the treatment, his suffering and the improbability of remission.

A direct appeal was accepted by the Supreme Judicial Court which affirmed the lower court's decision, saying that a full opinion would follow. Mr. Saikewicz died in September, 1976. Some fourteen months later (in November, 1977), the S.J.C. issued its full opinion.

Opinion of the Court

The Court held that a patient has the right to privacy "against unwanted infringements of bodily integrity in appropriate circumstances," stating that:

> "The constitutional right to privacy . . . is an expression of the sanctity of individual free choice and self-determination as fundamental constituents of life. The value of life as so perceived is lessened not by a decision to refuse treatment, but by the failure to allow a competent human being the right of choice."

The Court identified four potential interests: 1) preservation of life; 2) protection of innocent third parties; 3) prevention of suicide; 4) maintenance of the ethical integrity of the medical profession. It found only the first to be applicable and, in balancing it against the individual's interest in refusing unwanted bodily intrusions, the judgment of the lower court was affirmed.

The Justices determined that "the substantive rights of the competent and incompetent person are the same in regard to the right to decline potential life-prolonging treatment." They next addressed the particular problems involved when the patient is an incompetent person who is unable to express an opinion regarding such treatment. The Court adopted the doctrine of "substituted judgment" to determine the patient's wants and needs.

The Court then ruled that future cases involving an incompetent patient should be brought to the probate court, because, the justices said:

> "We take a dim view of any attempt to shift the ultimate decision taking responsibility away from the duly established courts of proper jurisdiction to any committee, panel or group, *ad hoc* or permanent. Thus, we reject the approach adopted by the New Jersey Supreme Court in the *Quinlan* case of entrusting the decision whether to continue artificial life supports to the party's Guardian, family, attending doctors, and hospital 'ethics committee.' "

The Court directed that in such cases the probate judge appoint a special guardian *ad litem* to represent the patient's interests and to present the judge with all "reasonable" arguments in favor of administering treatment to prolong life.

The Court stated that "questions of life and death" require the process of a "detached but passionate investigation and decision that forms the ideal on which the judicial branch of government was created."

Implications

The *Saikewicz* case reaffirms the constitutional right of privacy as the basis for a dying patient's right to refuse treatment. The Court recognized that the right of privacy also protects the incompetent patient, but it rejected the reasoning in *Quinlan* that it can be asserted in the more traditional patient/family/physician relationship. Instead it called for recourse to the courts and a resulting adversary process which can be time consuming and burdensome. The decision created confusion and consternation in medical circles. It prompted the Massachusetts Medical Society to draft "An Act Regarding Life-Prolonging and Life-Sustaining Treatment" which was introduced into the Massachusetts legislature in 1978.

A later interpretation by the Massachusetts Appeals Court in *Dinnerstein (See* Fact Sheet #3) narrowed the need for court intervention. The *Spring* case (*See* Fact Sheet #6) led to further judicial clarification of *Saikewicz* by the Massachusetts Supreme Judicial Court, including recognition of problems inherent in a lengthy judicial process.

The reliance of the Massachusetts court on the "substituted judgment" standard suggests that a person's previously documented wishes, e.g., living wills, would be of considerable importance in the event of incompetency.

In re Shirley Dinnerstein,
380 N.E. 134 (Mass. App. 1978)

Massachusetts Appellate Court

The Case

The patient, Shirley Dinnerstein, was a 67-year-old widow in the advanced stages of Alzheimer's Disease. She had a coronary condition and suffered a stroke. Her adult son and daughter and her physician sought declaratory relief asking for a determination that her attending physician could lawfully enter a "no code" order directing hospital staff to refrain from resuscitation measures should she suffer from cardiac or respiratory arrest. They specifically asked whether judicial approval of a "no code" would be required in these circumstances in view of the procedures established by the Massachusetts Supreme Judicial Court in *Saikewicz* (See Fact Sheet #2).

The probate court, which heard the petition, made extensive findings of fact regarding the patient's condition but withheld a final decision, seeking clarification from the Massachusetts Appeals Court.

Opinion of the Court

The Appeals Court distinguished the medical circumstances in this case from those in *Saikewicz,* decided six months earlier by the Massachusetts Supreme Judicial Court. The court noted that resuscitation procedures are often intrusive, violent and painful and in the Dinnerstein circumstances would only serve to prolong dying. The Court stated that the *Saikewicz* requirement of judicial proceedings applied only when treatment offers a "reasonable expectation of effecting a permanent or temporary cure of or relief from the illness." The Court stated:

> "This case does not offer a life-saving or life-prolonging treatment alternative within the meaning of the *Saikewicz* case.
>
> It presents a question peculiarly within the competence of the medical profession of what measures are appropriate to ease the imminent passing of an irreversibly terminally ill patient in light of the patient's history and conditions and the wishes of her family. That question is not one for judicial decision. . . ."

Implications

The *Dinnerstein* opinion was greeted with considerable relief in Massachusetts medical circles. In the months since *Saikewicz,* physicians had feared liability for withholding or withdrawing treatment from any incompetent patient without judicial approval, no matter how hopeless the situation.[1] *Dinnerstein* placed decision-making for an incompetent patient with the physician in accordance with family wishes when the patient is in the terminal stages of an "unremitting, incurable, mortal illness." Judicial approval is only required, the court said, when some measure of choice exists as to whether the treatment in question offers some hope of cure or meaningful remission, i.e., if the treatment has a "reasonable expectation" of leading to "a remission of symptoms enabling a return towards a normal functioning integrated existence."

The *Dinnerstein* decision is noteworthy because it is the first to uphold the validity of "no code" orders directing that resuscitative measures be withheld from an irreversibly, terminally ill incompetent patient in the event of cardiac or respiratory failure.

Commentators in the *New England Journal of Medicine* said: "The clarifications brought about by *Dinnerstein* should encourage physicians to discuss the 'no code' decision openly with patients if they are competent or with their families or guardians if they are not competent. The attending physician should document in the patient's chart his opinion of the patient's competence, his opinion that the patient meets the medical criteria for a 'no code' order and the nature of his discussion with the patient, his family or guardian and their wishes. Any 'no code' order should be clearly and prominently marked in the chart. . . ."[2]

Satz v. Perlmutter, Florida 362 So. 2nd 160 (Fla. App. 1978) Affirmed by Florida Supreme Court, 379 So. 2nd 359 (1980) — Florida

The Case

Abe Perlmutter, 73, suffered from amyotrophic lateral sclerosis (Lou Gehrig's disease). He was bedridden in a Florida Hospital, dependent on a mechanical respirator attached to his trachea. Death was certain within a matter of months. He was conscious and competent although speaking was difficult and painful. He had expressed to his family his intense suffering and had even tried to remove the respirator himself. It was re-attached when an alarm sounded. He retained an attorney and petitioned Broward County Circuit Court to have the respirator disconnected. After a bedside hearing, the trial judge authorized removal of the respirator *(Perlmutter v. Fla. Med. Ctr.,* Florida [Broward County Court 78-1486, 1978]). The State Attorney General, who had argued that anyone who helped to disconnect the respirator would be guilty of assisting in suicide, appealed to the District Court of Appeals.

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[1] An article in a medical publication reported that "Massachusetts doctors were both startled and dismayed by the (Saikewicz) decision." Comments by physicians included the following by a respiratory care specialist: "It's an impossible burden on us. We're resuscitating everybody—the 85-year-old with brain hemorrhage, patients dying of metastatic cancer. We often have no machines left for young people." (See "State Court Rejects 'Quinlan' Doctrine," **Medical World News**, March 6, 1978.)

[2] Ronald B. Schram, J.D. et al, " 'No Code' Orders: Clarification in the Aftermath of Saikewicz," **New England Journal of Medicine** 299: 875 (Oct. 19, 1978).

Court Opinions

The District Court of Appeals, noting that the patient's family was in full agreement with the patient, ruled on October 3, 1978:

> "Abe Perlmutter should be allowed to make his choice to die with dignity, notwithstanding over a dozen legislative failures in this state to adopt suitable legislation in this field. It is all very convenient to insist on continuing Mr. Perlmutter's life so that there can be no question of foul play, no resulting civil liability and no possible trespass on medical ethics. However, it is quite another matter to do so at the patient's sole expense and against his competent will, thus inflicting never ending physical torture on his body until the inevitable, but artificially suspended, moment of death. Such a course of conduct invades the patient's constitutional right of privacy, removes his freedom of choice and invades his right to self-determination."

The court rejected the state's contention of "self murder" because Mr. Perlmutter's illness was not self-inflicted.

Because of the "exigencies of the situation," the appeals court declined to certify the matter to the Florida Supreme Court. At a later date, the attorney general did apply for such review.

(Mr. Perlmutter called his family to his bedside the day after the District Court ruled in his favor. The respirator was removed and he died 40 hours later.)

Fifteen months after Mr. Perlmutter's death, the Florida Supreme Court unanimously affirmed the appeals court opinion. It declined to set guidelines for future cases, limiting the holding to the particular facts of the Perlmutter case, i.e. a competent, terminally ill adult with no minor dependents who refuses extraordinary medical treatment and has the agreement of surviving children. The Court called for the legislature to act on the issue.

Implications

Florida became the third state, after New Jersey and Massachusetts, in which a right-to-die case reached its highest court. This was followed by decisions in Delaware and New York. Of these cases, *Perlmutter* is the only one to involve a competent patient.

Common law gives the individual the right to refuse treatment.[1] However, *Perlmutter* illustrates the difficulties that can ensue when the withdrawal of ongoing procedures will result in death, even when the patient and family are in agreement.

The Florida Supreme Court clearly addressed the need for legislative guidelines, stating that the issue "is not one which is well-suited for resolution in an adversary judicial proceeding. It is the type which is more suitably addressed in the legislative forum. . . ."

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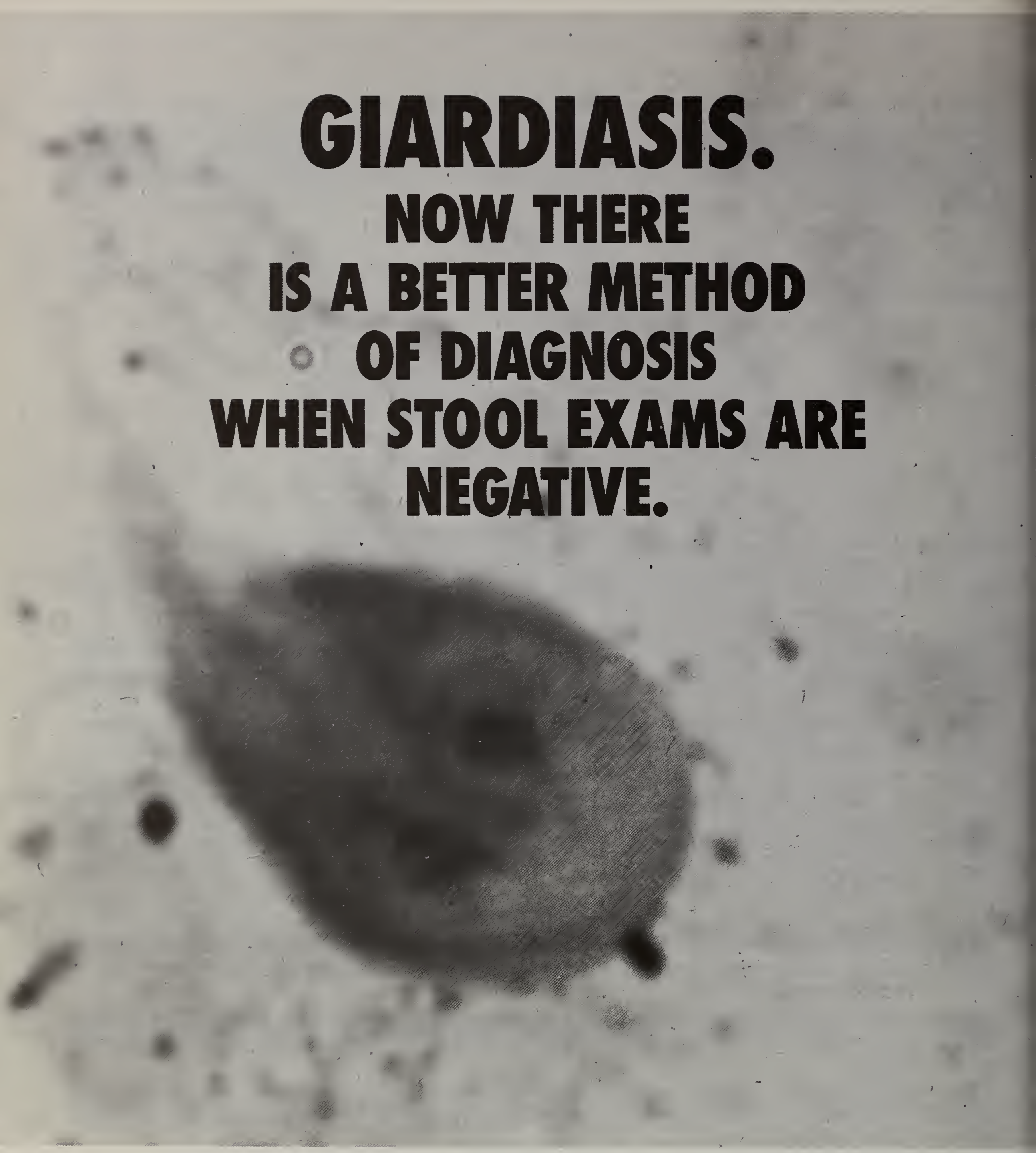
1) As one court declared: "Anglo-American law starts with the premise of thorough going self-determination. It follows that each man is considered to be master of his own body, and he may, if he be of sound mind, expressly prohibit the performance of life-saving surgery, or other medical treatment." (Natanson v. Kline, 186 Kan. 393, 406-7, 350 P. 2d 1093, 1104, opinion on denial of motion for rehearing. 187 Kan. 186, 354 P. 2d, 670 [1960])



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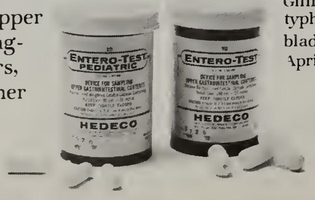

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Guidelines for the Determination of Death

Report of the Medical Consultants on the Diagnosis of Death to the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research

The guidelines set forth in this report represent the views of the signatories as individuals; they do not necessarily reflect the policy of any institution or professional association with which any signatory is affiliated. Although the practice of individual signatories may vary slightly, signatories agree on the acceptability of these guidelines: Jesse Barber, M.D., Don Becker, M.D., Richard Behrman, M.D., J.D., Donald R. Bennett, M.D., Richard Beresford, M.D., Reginald Bickford, M.D., William A. Black, Jr., M.D., Benjamin Boshes, M.D., Ph. D., Philip Braunstein, M.D., John Burroughs, M.D., J.D., Russell Butler, M.D., John Caronna, M.D. Shelley Chou, M.D., Ph.D., Kemp Clark, M.D., Ronald Cranford, M.D., Michael Earnest, M.D., Albert Ehle, M.D., Jack M. Fein, M.D., Sal Fiscina, M.D., J.D., Terrance G. Furlow, M.D., J.D., Eli Goldensohn, M.D., Jack Grabow, M.D., Phillip M. Green, M.D., Ake Grenvik, M.D., Charles E. Henry, Ph.D., John Hughes, M.D., Ph.D., D.M., Howard Kaufman, M.D. Robert King, M.D., Julius Korein, M.D., Thomas W. Langfitt, M.D., Cesare Lombroso, M.D., Kevin M. McIntyre, M.D., J.D., Richard L. Masland, M.D., Don Harper Mills, M.D., J.D., Gaetano Molineri, M.D., Byron C. Pevehouse, M.D., Lawrence H. Pitts, M.D., A. Bernard Pleet, M.D., Fred Plum, M.D., Jerome Posner, M.D., David Powner, M.D., Richard Rovit, M.D., Peter Safar, M.D., Henry Schwartz, M.D., Edward Schlesinger, M.D., Roy Selby, M.D., James Snyder, M.D., Bruce F. Sorensen, M.D., Cary Suter, M.D., William Sweet, M.D., Barry Tharp, M.D., Fernando Torres, M.D., A. Earl Walker, M.D., Arthur Ward, M.D., Jack Whisnant, M.D., Robert Wilkus, M.D., and Harry Zimmerman, M.D.

The preparation of this report was facilitated by the President's Commission but the guidelines have not been passed on by the Commission and are not intended as matters for governmental review or adoption.

The advent of effective artificial cardiopulmonary support for severely brain-injured people has created some confusion during the past several decades about the determination of death. Previously, loss of heart and lung functions was as easily observable and sufficient basis for diagnosing death, whether the initial failure occurred in the brain, the heart and lungs, or elsewhere in the body. Irreversible failure of either the heart and lungs or the brain precluded the continued functioning of the other. Now, however, circulation and respiration can be maintained by means of a mechanical respirator and other medical interventions, despite a loss of all brain functions. In these circumstances we recognize as dead an individual whose loss of brain functions is complete and irreversible.

In order to recognize reliably that death has occurred, accurate criteria must be available for physicians' use. These now fall into two groups, to be applied depending upon the clinical situation. When respiration and circulation have irreversibly ceased, there is no need to assess brain functions directly. When cardiopulmonary functions are artificially maintained, neurologic criteria must be used to assess whether brain functions have irreversibly ceased.

More than half the states now recognize, through statutes or judicial decisions, that death may be determined on the basis of irreversible cessation of all functions of the brain. Law in the remaining states has not yet departed from the older, common law view that

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Reprint requests to Joanne Lynn, MD, Assistant Director for Medical Studies, President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, Suite 555, 2000 K St NW, Washington, DC 20006.

death has not occurred until "all vital functions" (whether or not artificially maintained) have ceased. The language of the statutes has not been uniform from state to state and the diversity of proposed and enacted laws has created substantial confusion. Consequently, the American Bar Association, the American Medical Association, the National Conference of Commissioners on Uniform State Laws, and the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research have proposed a model statute, intended for adoption in every jurisdiction:

Uniform Determination of Death Act

> An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards.

This wording has also been endorsed by the American Academy of Neurology and the American Electroencephalographic Society.

The statute relies upon the existence of "accepted medical standards" for determining that death has occurred. The medical profession, based upon carefully conducted research and extensive clinical experience, has found that death can be reliably determined by either cardiopulmonary or neurologic criteria. The tests used for determining cessation of brain functions have changed and will continue to do so with the advent of new research and technologies. The "Harvard criteria" (JAMA, 205:337, 1968) are widely accepted, but advances in recent years have led to the proposal of other criteria. As an aid to the implementation of the proposed uniform statute, we provide here one statement of currently accepted medical standards.

Introduction

The criteria that physicians use in determining that death has occurred should: (1) Eliminate errors in classifying a living individual as dead, (2) Allow as few errors as possible in classifying a dead body as alive, (3) Allow a determination to be made without unreasonable delay, (4) Be adaptable to a variety of clinical situations, and (5) Be explicit and accessible to verification.

Because it would be undesirable for any guidelines to be mandated by legislation or regulation or to be inflexibly established in case law, the proposed Uniform Determination of Death Act appropriately specifies only "accepted medical standards." Local, state, and national institutions and professional organizations are encouraged to examine and publish their practices.

The following guidelines represent a distillation of current practice in regard to the determination of death. Only the most commonly available and verified tests have been included. The time of death recorded on a death certificate is at present a matter of local practice and is not covered in this document.

These guidelines are advisory. Their successful use requires a competent and judicious physician, experienced in clinical examination and the relevant procedures. All periods of observation listed in these guidelines require the patient to be under the care of a physician. Considering the responsibility entailed in the determination of death, consultation is recommended when appropriate.

The outline of the criteria is set forth below in capital letters. The indented text that follows each outline heading explains its meaning. In addition, the two sets of criteria (cardiopulmonary and neurologic) are followed by a presentation of the major complicating conditions: drug and metabolic intoxication, hypothermia, young age, and shock. It is of paramount importance that anyone referring to these guidelines be thoroughly familiar with the entire document, including explanatory notes and complicating conditions.

THE CRITERIA FOR DETERMINATION OF DEATH

An individual presenting the findings in *either* section A (cardiopulmonary) *or* section B (neurologic) is dead. In either section, a diagnosis of death requires that *both* cessation of functions, as set forth in subsection 1, *and* irreversibility, as set forth in subsection 2, be demonstrated.

A. An individual with irreversible cessation of circulatory and respiratory functions is dead.

1. *Cessation* is recognized by an appropriate clinical examination.

   Clinical examination will disclose at least the absence of responsiveness, heart beat, and respiratory effort. Medical circumstances may require the use of confirmatory tests such as an EKG.

2. *Irreversibility* is recognized by persistent cessation of functions during an appropriate period of observation and/or trial of therapy.

   In clinical situations where death is expected, where the course has been gradual, and where irregular agonal respiration or heart beat finally ceases, the period of observation following the cessation may be only the few minutes required to complete the examination. Similarly, if resuscitation is not undertaken and a monitored patient develops ventricular fibrillation and standstill, the required period of observation thereafter may be as short as a few minutes. When a possible death is unobserved, unexpected, or sudden, the examination may need to be more detailed and repeated over a longer period of time, while appropriate resuscitative effort is maintained as a test of cardiovascular responsiveness. Diagnosis in individuals who are first observed with rigor mortis or putrefaction may require only the observation period necessary to establish that fact.

B. An individual with irreversible cessation of all functions of the entire brain, including the brainstem, is dead.

The "functions of the entire brain" that are relevant to the diagnosis are those which are clinically ascertainable, subject to confirmation (where indicated) by laboratory tests as described below. Consultation with a physician experienced in this diagnosis is advisable.

1. *Cessation* is recognized when evaluation discloses findings of a *and* b:
   a. Cerebral functions are absent, and

   There must be deep coma, that is, cerebral unreceptivity and unresponsivity. Medical circumstances may require the use of confirmatory studies such as an EEG or blood flow study.

   b. Brainstem functions are absent.

   Reliable testing of brainstem reflexes requires a perceptive and experienced physician using adequate stimuli. Pupillary light, corneal, oculocephalic, oculovestibular, oropharyngeal, and respiratory (apnea) reflexes should be tested. When these reflexes cannot be adequately assessed, confirmatory tests are recommended.

   Adequate testing for apnea is very important. An accepted method is ventilation with pure oxygen or an oxygen and carbon dioxide mixture for ten minutes before withdrawal of the ventilator, followed by passive flow of oxygen. (This procedure allows PaC02 to rise without hazardous hypoxia.) Hypercarbia adequately stimulates respiratory effort within thirty seconds when PaC02 is greater than 60 mmHg. A ten minute period of apnea is usually sufficient to attain this level of hypercarbia. Testing of arterial blood gases can be used to confirm this level. Spontaneous breathing efforts indicate that part of the brainstem is functioning.

   Peripheral nervous system activity and spinal cord reflexes may persist after death. True decerebrate or decorticate posturing or seizures are inconsistent with the diagnosis of death.

2. *Irreversibility* is recognized when evaluation discloses findings of a *and* b *and* c:
   a. The cause of coma is established and is sufficient to account for the loss of brain functions, and

   Most difficulties with the determination of death on the basis of neurologic criteria have resulted from inadequate attention to this basic diagnostic prerequisite. In addition to a careful clinical examination and investigation of history, relevant knowledge of causation may be acquired by CT-scan, measurement of core temperature, drug screening, EEG, angiography, or other procedures.

   b. The possibility of recovery of any brain functions is excluded, and

   The most important reversible conditions are sedation, hypothermia, neuromuscular blockade, and shock. In the unusual circumstance where a sufficient cause cannot be established, irreversibility can be reliably inferred only after extensive evaluation for drug intoxication, extended observation, and other testing. A determination that blood flow to the brain is absent can be used to demonstrate a sufficient and irreversible condition.

   c. The cessation of all brain functions persists for an appropriate period of observation and/or trial of therapy.

   Even when coma is known to have started at an earlier time, the absence of all brain functions must be established by an experienced physician at the initiation of the observation period. The duration of observation periods is a matter of clinical judgment, and some physicians recommend shorter or longer periods than those given here.

   Except for patients with drug intoxication, hypothermia, young age, or shock, medical centers with substantial experience in diagnosing death neurologically report no cases of brain functions returning following a six hour cessation, documented by clinical examination and confirmatory EEG. In the absence of confirmatory tests, a period of observation of at least twelve hours is recommended when an irreversible condition is well established. For anoxic brain damage where the extent of damage is more difficult to ascertain, observation for twenty-four hours is generally desirable. In anoxic injury, the observation period may be reduced if a test shows cessation of cerebral blood flow or if an EEG shows electrocerebral silence in an adult patient without drug intoxication, hypothermia, or shock.

Confirmation of clinical findings by EEG is desirable when objective documentation is needed to substantiate the clinical findings. Electrocerebral silence verifies irreversible loss of cortical functions, except in patients with drug intoxication or hypothermia. (Important technical details are provided in: American Electroencephalographic Society, *Guidelines in EEG 1980,* Section 4: "Minimum Technical Standards for EEG Recording in Suspected Cerebral Death," pp. 19-24, Atlanta, 1980.) When joined with the clinical findings of absent brainstem functions, electrocerebral silence confirms the diagnosis.

Complete cessation of circulation to the normothermic adult brain for more than ten minutes is incompatible with survival of brain tissue. Documentation of this circulatory failure is therefore evidence of death of the entire brain. Four-vessel intracranial angiography is definitive for diagnosing cessation of circulation to the entire brain (both cerebrum and posterior fossa) but entails substantial practical difficulties and risks. Tests are available that assess circulation only in the cerebral hemispheres, namely radioisotope bolus cerebral angiography and gamma camera imaging with radioisotope cerebral angiography. Without complicating conditions, absent cerebral blood flow as measured by these tests, in conjunction with the clinical determination of cessation of all brain functions for at least six hours, is diagnostic of death.

Complicating Conditions

A. Drug and Metabolic Intoxication

Drug intoxication is the most serious problem in the determination of death, especially when multiple drugs are used. Cessation of brain functions caused by the sedative and anesthetic drugs, such as barbiturates, benzodiazepines, meprobamate, methaqualone, and trichloroethylene, may be completely reversible even though they produce clinical cessation of brain functions and electrocerebral silence. In cases where there is any likelihood of sedative presence, toxicology screening for all likely drugs is required. If exogenous intoxication is found, death may not be declared until the intoxicant is metabolized or intracranial circulation is tested and found to have ceased.

Total paralysis may cause unresponsiveness, areflexia, and apnea that closely simulates death. Exposure to drugs such as neuromuscular blocking agents or aminoglycoside antibiotics, and diseases like myasthenia gravis are usually apparent by careful review of the history. Prolonged paralysis after use of succinylcholine and related drugs requires evaluation for pseudo-cholinesterase deficiency. If there is any question, low-dose atropine stimulation, electromyogram, peripheral nerve stimulation, EEG, tests of intracranial circulation, or extended observation, as indicated, will make the diagnosis clear.

In drug-induced coma EEG activity may return or persist while the patient remains unresponsive and therefore the EEG may be an important evaluation along with extended observation. If the EEG shows electrocerebral silence, short latency auditory or somatosensory evoked potentials may be used to test brainstem functions, since these potentials are unlikely to be affected by drugs.

Some severe illnesses (e.g., hepatic encephalopathy, hyperosmolar coma, and pre-terminal uremia) can cause deep coma. Before irreversible cessation of brain functions can be determined, metabolic abnormalities should be considered and, if possible, corrected. Confirmatory tests of circulation or EEG may be necessary.

B. Hypothermia

Criteria for reliable recognition of death are not available in the presence of hypothermia (below 32.2°C core temperature). The variables of cerebral circulation in hypothermic patients are not sufficiently well studied to know whether tests of absent or diminished circulation are confirmatory. Hypothermia can mimic brain death by ordinary clinical criteria and can protect against neurologic damage due to hypoxia. Further complications arise since hypothermia also usually precedes and follows death. If these complicating factors make it unclear whether an individual is alive, the only available measure to resolve the issue is to restore normothermia. Hypothermia is not a common cause of difficulty in the determination of death.

C. Children

The brains of infants and young children have increased resistance to damage and may recover substantial functions even after exhibiting unresponsiveness on neurological examination for longer periods than do adults. Physicians should be articularly cautious in applying neurologic criteria to determine death in children less than five years old.

D. Shock

Physicians should also be particularly cautious in applying neurologic criteria to determine death in patients in shock because the reduction in cerebral circulation can render clinical examination and laboratory tests unreliable.

Actions of the Council on Scientific Affairs: A Summary

AMA House of Delegates—Interim Meeting

ORVAN W. HESS, M.D.

Rapid progress in medical science and application of new technologies to medical practice have added the responsibility that the Profession review and evaluate these new developments. The Council on Scientific Affairs was established by the AMA for the purpose of dealing with matters of ethics, in liaison with the Judicial Council, and forming relationships with federal and private agencies concerned with standards of clinical investigation, genetic engineering and fetal research (June, 1977).This Council is being requested with increasing frequency to consider issues about which questions, concerning the current status and medical efficacy of various modalities which often have significant social and economic implications, have been raised. An indication of the extensive activity of that Council is apparent in the following summary.

At the meeting of the AMA, December 6-9, 1981, the Delegates received reports of the Council on Scientific Affairs on seven items of major significance and considered in Reference Committee E, two reports of the Board of Trustees, and 12 Resolutions dealing with medical and social aspects of health-related topics. After hearing testimony, pro and con, Reference Committee E submitted its recommendations to the House, which acted on the following items.

1. Better Care for an Underserved Population

In a report based on its in-depth study of homosexuality and material from *Sexual Problems in Medical Practice,* a book now in preparation by an expert editorial board to be published soon by the AMA, the Council on Scientific Affairs called attention to the unique problems of homosexuals and the need for alertness concerning special diseases to which they are susceptible. The Council was complimented by the President of the American Psychiatric Association Gay Caucus for its thorough study. The President-elect of the Bay Area Physicians for Human Rights (a group of 350) called the report "a positive document overall which should have wide circulation." In adopting the report, the House of Delegates asks the AMA to take a leadership role in (1) educating physicians on the current status of research and knowledge of homosexuality, (2) development of educational programs to acquaint them with the diseases for which they are at risk and the possibility of sex-preference reversal in selected cases and (3) providing physicians with better knowledge of available clinics and physicians who are willing to accept homosexuals to improve the health care of the homosexual population.

2. Periodic Medical Evaluations

A detailed report of the Council on Scientific Affairs' study of the issue of periodic medical examinations recommends (1) that an annual visit to a physician by a person over age 45 serves "as a convenient reference point for preventive services"; (2) that testing of individuals and population groups should be pursued only when adequate treatment and follow-up can be arranged; and (3) that physicians need to further improve their skills in fostering patients' good lifestyles and in dealing with long-recognized problems such as hypertension, obesity, anxiety, depression, and the excessive use of alcohol and drugs.

Although there was general agreement that periodic health examinations are desirable, there was concern that the specific guidelines listed on pp. 6-12 of the report might be interpreted too rigidly and thus place the physician in legal jeopardy. The House of Delegates voted to refer the report back to the Council for modification.

3. Estrogen Replacement in the Menopause

The Council on Scientific Affairs conducted an extensive review of estrogen therapy for certain aspects of medical care and its use for menopausal women. This detailed review is a response to recent reports

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relating the incidence of endometrial cancer to postmenopausal use of estrogen compounds for such conditions as: vasomotor flushes, osteoporosis, possible prevention of complications of atherosclerotic vascular disease, anxiety, insomnia and psycho-neural disorders. The purpose of the report is to place the issue of warning-labeling of estrogenic compounds by the F.D.A., the outcome of an N.I.H. Consensus Development Conference (1979), and subsequent commentaries in perspective for the practicing physician. Data gleaned from three retrospective studies seemed to indicate greater risk of developing endometrial cancer when conjugated estrogens had been used daily for two to four years. Inherent difficulties in conducting such studies and lack of control groups leave the findings open to question, especially when confirmation of histologic diagnosis is lacking. A recent prospective study found no relationship between the use of estrogens and endometrial carcinoma. Observations in animals seem to correlate an increasing risk of cancer with dosage of estrogens after long-term administration of estrogens. In humans, while an increase in incidence rates in different regions paralleled the increase in use of estrogens, this was not accompanied by a corresponding increase in mortality. This may indicate that the histologic "reaction to estrogen therapy often represents a neoplastic process less than malignant." A lower incidence of endometrial cancer has been found when a cyclic regimen of the use of an estrogen-progestin combination has been employed.

The Council on Scientific Affairs recommended the following for the management of the menopause:

1. As with any form of drug treatment, estrogens should be utilized only for responsive indications, in the smallest effective dose, and for the shortest period that satisfies therapeutic need.
2. Estrogens are effective in the treatment and/or prevention of vasomotor flushes, atrophic urogenital conditions, and probably osteoporosis.
3. Treatment is initiated with a low dose of oral estrogen. A topical preparation may be useful if atrophic vaginal symptoms are present.
4. Estrogen is administered cylically to women with intact uteri to avoid continuous stimulation of the endometrium. Estrogen is administered for three out of four weeks (or 25 days of each month) and a progestin may be added to the regimen on the last 10 to 13 days of estrogen treatment.
5. Any abnormal vaginal bleeding must be investigated promptly.
6. Yearly monitoring of asymptomatic patients should be performed and may include histologic and cytologic sampling of the endometrium. Pelvic and breast examinations and measurement of blood pressure should also be done annually.
7. The only fully accepted contraindication to estrogen replacement therapy is the presence of an estrogen-dependent neoplasm of the breast.
8. As in all therapeutic decisions the patient should participate in this decision to use estrogen replacement after discussing with her physician the risks and benefits involved in her instance, and after experiencing the possible subjective benefits.

4. DSMO Controversy and Current Status—1981

In view of the varied opinions generated over the question of safety and efficacy of Dimethyl Sulfoxide (DSMO), a staff report on the current status of the use of this chemical agent following trauma and interstitial cystitis and for other chemical purposes was prepared. Attention is called to the voluminous publications of scientific articles, innumerable articles in the lay press, outcome of four international conferences and commentaries which have contributed to the controversy. The Council on Scientific Affairs felt that it was important to disseminate this review on the scientific evidence of the usefulness of DSMO at this time. Physicians should be assured that studies of its clinical efficacy and safety are in progress and to advise their patients that answers to many of their questions may soon be obtained. The report was adopted.

5. Patenting of Micro-Biological Organisms

This report is a response of the Board of Trustees to a request for "a report on the impact on physicians and their practices of micro-biological organism patents." It was noted that the landmark decision of the U.S. Supreme Court (June, 1980) that "a live, man-made organism is patentable subject matter" has ramifications particularly applicable to medicine since (1) "It should advance basic and applied research in genetic engineering," and (2) "The products of the new technology have significant implications for agriculture, industry and medical science," and (3) "The impact of recombinant DNA technology on medical practice has only begun to be felt in many potential applications of its use for the treatment of human disease." The report points out that the decision of the Supreme Court provides an economic incentive to further the development of the new technology. On recommendation of Reference Committee E, the report was adopted.

6. Health Effects of "Agent Orange" and Dioxin Contaminants

A summary of a review of medical evidence regarding toxicity and long-term health effects of "Agent Orange"* and contaminating TCDD** was prepared by the Scientific Affairs Advisory Panel on Toxic Substances. Current studies of the kinds and extent of damage to humans following exposure to "Agent Orange" and TCDD were described. Recommendation that such studies should continue to be supported and that all physicians be alerted, through AMA publications, to the occurrence of chloracne and other possible adverse effects of exposure to TCDD and to urge them to cooperate in ongoing human epidemiologic studies, was adopted by the Delegates.

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*A mixture of N-butyl esters of 2,4-D and 2,4,5-T together with small amounts of free acid 2,4,5-T and varying amounts of TCDD (Agent Orange).

**Tetrachlorodibenzo-p-dioxin (TCDD).

7. Genetic Counseling and Prevention of Birth Defects

Health statistics indicate that congenital disease has become a major cause of infant mortality. Advances in technologies of detecting genetic defects and programs of genetic screening have brought an explosive expansion of prenatal screening techniques and genetic counseling services. As a result of this review by the Council of Scientific Affairs of the "state of the art of genetic screening and counseling as practiced today," it was recommended that the AMA:

1. Advise the Federal Government that adequate genetic counseling must be incorporated into any prenatal screening program established for the detection of birth defects.
2. Advise Congress that, since the heterozygote carrier state is becoming identified in high risk patients for an increasing number of birth defects, availability of screening tests for heterozygotes should be made as wide as possible.
3. Encourage specialty societies to enhance their efforts to train physicians in the newer techniques of antenatal diagnosis, e.g., ultrasound, amniocentesis, amniography, and fetoscopy.
4. Advise Congress that the National Genetic Disease Act should be renewed and expanded so that this important area of activity can find further extension into local communities.

The report was adopted by the House of Delegates.

8. Prescription of Tranquilizers and Antidepressants for Women

This is a report of the Council on Scientific Affairs following its investigation of criticism related to current trends of prescribing tranquilizers and antidepressants for women. It was observed that, although women are "diagnosed as having symptomatology of anxiety or depression twice as often as, or more than men," there is evidence that underutilization of this type of medication exists. In many instances drugs have been withheld or dosage has been inadequate when sound therapeutic indications are present. The recommendation that the AMA encourage research in the development of new psychosocial models of depression to determine the degree all causative factors contribute to depression in individuals, especially women, was adopted.

Other actions taken by the House of Delegates on items considered by Reference Committee E were:

1. IN-UTERO SURGERY

   Noting that in-utero surgery was being performed on the fetus in a few institutions, a Resolution was introduced asking for a study of in-utero surgical procedures and the development of recommendations for the appropriate application of this new technology. This was adopted by the House of Delegates and referred to the Board of Trustees.

2. CLEAN AIR

   The AMA was requested to support the current air quality standards of The Clean Air Act and oppose any relaxation of automobile emission standards. The Resolution was referred to the Board of Trustees.

3. ACID PRECIPITATION

   A request that the AMA encourage further studies to determine the effects of acid precipitation on the population of the United States and Canada and to inform Congress of its concern over the possible hazards was adopted.

4. BEGINNING OF LIFE

   Resolution 11 asked that the AMA establish a policy that human life begins with the beginning of brain function in the fetus. The lack of currently available technology to elicit activity of the brain of the fetus was noted. It was not adopted.

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Statement on Exercise

Subcommittee on Exercise/Cardiac Rehabilitation

AMERICAN HEART ASSOCIATION

RICHARD A. CARLETON, M.D., *Chairman,* C. GUNNAR BLOMQVIST, M.D., JERE H. MITCHELL, M.D., L. HOWARD HARTLEY, M.D., FREDERICK JAMES, M.D., PAUL L. MCHENRY, M.D., MR. MICHAEL OLIVERIO, MICHAEL L. POLLOCK, PH.D., RONALD H. SELVESTER, M.D., FRANK G. YANOWITZ, M.D., MR. STERLING B. BRINKLEY, *Liaison, U.S. Rehabilitation Services.*

Exercise training can increase cardiovascular functional capacity and decrease myocardial oxygen demand for any given level of physical activity in normal persons as well as most cardiac patients. Regular physical activity is required to maintain the training effects. The potential risk of vigorous physical activity can be reduced by appropriate medical clearance, education and guidance.

Exercise may aid efforts to control cigarette smoking, hypertension, lipid abnormalities, diabetes, obesity, and emotional stress. Evidence suggests that regular, moderate or vigorous occupational or leisure-time physical activity may protect against coronary heart disease and may improve the likelihood of survival from a heart attack.

I. Benefits

A. *Physiologic*

Both normal persons and patients with cardiovascular disease demonstrate an improvement in exercise tolerance with physical training. This improvement results from an increased ability to utilize oxygen to derive energy for physical work. The increased maximal oxygen uptake may be due to an increased availability of oxygen provided by the circulation and/or increased uptake by the skeletal muscle. Associated with this increase in tolerance are changes in neurologic, hormonal, metabolic, respiratory and hemodynamic functions. The exact contribution of each of these biochemical or physiological mechanisms in health and disease is under continuing investigation.

Physical training results in a decreased oxygen demand of the heart for a given level of total body oxygen uptake. This is manifest as a decrease in the product heart rate X systolic arterial blood pressure (double product). These changes are especially beneficial in individuals with ischemic heart disease.

Physical training alters lipid and carbohydrate metabolism and may result in a blood lipid and lipoprotein profile consistent with a decreased risk of atherosclerotic vascular disease.

Developing muscle strength is important in prevention and rehabilitation of certain musculoskeletal problems. Exercises, static or dynamic, which are designed primarily to develop strength generally, have little value in increasing cardiorespiratory endurance. Participants who have cardiovascular disease should avoid heavy lifting and forceful, isometric exercises.

B. *Psychologic*

Anxiety and depression are common psychological problems encountered in normal individuals and in patients with clinical heart disease (coronary, congenital, other). Emotional invalidism can result. Prescribed and supervised physical training can often prevent or alleviate anxiety and depression in normal individuals and patients with cardiovascular disease. Enhancing cardiovascular function may help restore confidence, self-esteem and the patient's sense of independence.

Approved by the American Heart Association Steering Committee on Medical and Community Program May 8, 1981.

Copies may be obtained from affiliates or the National Center, Dallas, TX (ask for No. 71-021-A).

The physically trained patient is often able to demonstrate to self, family and peers that he is usually capable of assuming his previous position in society. By a few simple interventions relating to life-styles, important components of which are education and enhanced physical activity, the emotional and physical consequences of heart disease can be prevented or considerably reduced in many instances.

C. *Morbidity and Mortality*

Epidemiological data suggest that men working in physically demanding jobs or performing strenuous recreational activities have less coronary heart disease during middle age. When present, coronary heart disease appears to be less severe and occurs later in life in physically active men than in physically inactive men. Experience in non-randomized trials suggests that medically prescribed and supervised exercise can reduce the morbidity and mortality rates of patients with ischemic heart disease; however, to date, a unifactorial randomized control trial has not been reported that provides unequivocable data to confirm whether exercise either prevents or retards the development of coronary heart disease.

II. Implementation

Individuals of all ages should be encouraged to develop a physically active life-style as part of a comprehensive program for disease prevention and health promotion. They should seek opportunities to increase their habitual physical activity to a level appropriate to their capacity, needs and interests.

Large muscle dynamic exercise for extended periods of time is recommended. Especially valuable are activities such as walking, hiking, stair climbing, jogging, running, bicycling, swimming, selected active sports, games or calisthenics and gardening or similar leisure time activities.

The taining effect resulting from the performance of such activities is most apparent at intensities exceeding 50% of an individual's own exercise capacity, defined as maximal oxygen uptake or the highest work intensity that can be achieved without producing symptoms and signs of clinical significance. While cardiovascular and orthopedic complications may occur, they are infrequent, at intensities less than 75% of capacity. These problems can be minimized with the use of proper equipment and training techniques. The training effect of regular physical activity is best achieved with such exercise performed 30 minutes per session on an every-other-day schedule.

A. *Involvement of Medical Professionals*

Prior to a substantial increase in physical activity, patients with known or suspected cardiovascular, respiratory, metabolic, orthopedic, or neurologic disorders should obtain advice from their personal physician regarding exercise plans. In turn, physicians should have access to appropriate guidance for such patients.* Older, sedentary individuals may also wish to seek medical advice. In order to provide such advice, a medical evaluation may be necessary. Exercise testing may be included to provide a basis for an appropriate exercise prescription. In some instances, it is necessary for patients to carry out their exercise prescription in a medically supervised program in an effort to detect exercise induced cardiac abnormalities and to prevent sudden death.

Medical training programs should prepare physicians to recommend proper exercise for normal individuals and selected patients.

B. *Parent Responsibility*

Parents should be aware of the health benefits of regular vigorous physical activity and the contribution of exercise to the quality of life. Parents should be encouraged to incorporate vigorous physical activity into their daily lives. This commitment provides an incentive, sets an example and develops a positive attitude in children toward physical activity.

C. *School Programs*

Physical exercise is necessary for normal physical growth and psychological development of the young. Children should have theoretical and practical introductions to principles of training and vigorous recreational activities.

School programs should develop and nurture positive attitudes toward physical exercise, and provide the opportunity for teaching physical skills and performing vigorous physical activities of life-long usefulness. The school curriculum should not overemphasize the teaching of special sports and athletics which selectively eliminate the less skilled child.

D. *Government Responsibility*

Government agencies should evaluate the need for proper exercise (outdoor and indoor) facilities and develop short and long range plans to provide appropriate opportunities for exercise regardless of age or economic level. Agencies responsible for approving new construction should provide economic and zoning incentives to builders of both residential and commercial properties for including space and facilities for exercise as an integral part of new construction.

E. *Employee Exercise Opportunities*

Employers and organized labor should take an interest in maintaining the health of workers and provide assistance in increasing knowledge, opportunities and incentives to exercise properly. Various approaches to provide employee exercise programs have been implemented successfully by public and private organizations. These include low-cost educational and incentive programs to provide medical clearance evaluation, supervision, facilities and exercise time during working hours. This could be accomplished by an exercise time in the morning and/or afternoon.

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*1. Exercise Testing and Training of Apparently Healthy Individuals: A Handbook for Physicians. American Heart Association, 70-008-A, Dallas, 1972

2. Exercise Testing and Training of Individuals With Heart Disease or at High Risk for its Development: A Handbook for Physicians. American Heart Association, 70-008-B, Dallas, 1975

3. The Exercise Standards Book. American Heart Association, 70-041-A, Dallas, Revised 1981

F. *Community Service Organizations*

Community organizations are encouraged to provide exercise opportunities to the general public, including instructions on the benefits of exercise and how to exercise effectively and safely; exercise classes supervised by properly trained leaders; and, when needed, medically supervised exercise programs for cardiac and other patients requiring such supervision. A general risk reduction program should be integrated into exercise programs.

G. *Insurance Industry*

The potential economic impact from programs for cardiovascular health enhancement warrants cooperative efforts by the insurance industry and the medical community to provide programs within American Heart Association standards. Life, health and disability insurance providers should be encouraged to recognize member involvement and participation in exercise training programs.

III. Research

There is a large body of knowledge available in the area of exercise, but more work needs to be done in several areas related to exercise and its effects on the cardiovascular system. Responsibility for research in this area lies with government, private health agencies, insurance industry, employers, etc.:

A. Evaluate the basic long-term and short-term biochemical, physiological and anatomical changes that result from altered patterns of physical activity and determine if such changes alter the atherosclerotic process.

B. Evaluate the short-term and long-term influence of participating in various specific programs of activity on ischemic heart disease, peripheral vascular disease and hypertension for the purpose of both prevention and rehabilitation.

C. Evaluate the factors which influence physiologic response to the levels of activity encountered in daily living, in health and cardiovascular disease.

D. Evaluate objectively the psychological benefits of regular physical activity on normal individuals, high risk adults and cardiac patients.

E. Evaluate the efficacy of methods to motivate people of all ages to initiate and maintain an appropriate exercise program and determine the feasibility of commuter physical activities (human transport) in major urban areas.

F. Evaluate the morbidity, mortality, absenteeism and economic impact of programs for cardiovascular health enhancement by the insurance industry, business, organized labor and the industrial community.

G. Evaluate the effect of an exercise program in motivating an individual to alter harmful risk factors (e.g., smoking, overeating, under exercising).

H. Evaluate the societal, cultural and personal factors which enhance or inhibit development or maintenance of life-long personal fitness.

THE ADMINISTRATION'S PROPOSAL TO CUT Medicare reimbursement by 2% will be "vigorously opposed" by the American Hospital Association, AHA President Alex McMahon said. The nation cannot afford a cut in the already seriously underfunded Medicare program, he said, adding that reducing reimbursement will not help hospitals operate more efficiently or provide any incentives to contain costs. The AHA president predicted that the reduction would jeopardize the ability of many hospitals to care for the sick. He called for fundamental reform in the way hospitals are paid for their services, such as a prospective payment system.

—*AMA Newsletter,* Vol. 4, No. 8, March 1, 1982

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Month in Washington

Congress has sent clear warnings to the White House that President Reagan's budget proposal faces stormy going on Capitol Hill.

Much of the lawmakers' concern centers on the size of the projected deficit—$91 billion—but strong opposition has also surfaced to the New Federalism plan to turn major programs over to the states and to recommend slashes in domestic programs, including health.

Spearheading the fight for the Administration's budget, David Stockman, head of the Office of Management and Budget, told Congress not to give up on President Reagan's proposals. He predicted in testimony before the Senate Budget Committee that Congress eventually will embrace most of the Administration's program.

However, Stockman said the Administration's position isn't inflexible. "I would dispel the notion that somehow we have said some things are non-negotiable in any absolutely rigid sense."

A radical revision of the Administration's program has been proposed by Senate Budget Committee Chairman Pete Domenici (R-NM), who has been a staunch supporter of the President. The Senator proposed larger tax increases, smaller increases for Defense and a freeze on most domestic programs.

The President's budget "fails to do enough to cut spending and accepts almost benignly what are malignant deficits" that could "crush any hope of economic recovery," said Domenici.

Meanwhile, Senate Finance Committee Chairman Robert Dole (R-KS), who will have a big say in the fate of health programs, said the battle over changes in the budget may reach a climax in April.

In addition to Domenici's alternative budget plan, Senate Majority leader Howard Baker (R-TN) has suggested a temporary surtax on income to ease the deficit; and Ernest Hollings (D-SC) has recommended a freeze on defense increases, tax increases and entitlement program spending.

The major economy proposed by the Administration in health is a $5 billion reduction in the rate of growth of the Medicare and Medicaid programs. The House Ways and Means Health Subcommittee will conduct hearings on this issue during the next month.

President Reagan's plan that would federalize Medicaid and turn major welfare and other health programs over to the states encountered resistance at the annual meeting of governors. However, the National Conference of State Legislatures approved the New Federalism concept with the warning that each of its provisions must be carefully examined and negotiated. The state lawmakers also urged the government to federalize income maintenance and food stamps as well as Medicaid.

Budget chief Stockman said that if Medicaid is federalized the Administration hopes to standardize services, but he told the governors there are no plans to radically change any of the program's provisions. He said it is not practical to have 30 optional services under Medicaid in one state and none in another.

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The nation's medical schools fear the threatened squeeze on federal loan funds and aid for students could lead many students to drop out.

Loss of the guaranteed loan program for graduate and professional students would be devastating, according to Robert Boerner, Director of the Division of Student Programs of the Association of American Medical Colleges (AAMC).

Noting that the Administration proposal would hit the entire graduate and professional academic community, Boerner exclaimed "where the hell are we going to get the leaders of the country?"

The AAMC has been warning that the already-carried-out elimination of capitation aid for medical schools (federal grants based on number of students), plus the proposed curbs on federally-aided loans could make medical schools the province of only wealthy students.

Lower standards of admission, smaller classes, and slashed overhead costs may be in the offing. Some schools might not be able to survive the crunch, some AAMC officials have said. The number of applicants for schools is now the lowest it has been in 10 years and may drop below two applicants per place. In some areas involving state residents and public schools, the ratio is one to one.

According to Boerner the federal graduate student loan program provides 78 percent of all loan money available to medical students with 72 percent of all students participating in such loans.

Prepared by the Washington, D.C.
Office of the American Medical Association

Not only is the subsidized graduate loan program in jeopardy, but the fall-back loan and aid programs are in trouble. The Administration has proposed no further funding of the Exceptional Financial Need Scholarship Program which benefits two percent of medical students. The Health Professions Student Loan Program, utilized by about five percent of medical students, and the National Direct Student Loan Program, also about five percent, are recommended for cancellation.

These three loan programs account for 85 percent of all loan dollars available to the medical students, Boerner said.

The major remaining source is the Health Educations Assistance Loan program (HEAL) which involves federal guarantees of loans from private sources. These loans are made at roughly the prevailing interest rates without any federal subsity. The Administration wants to limit this fund to $80 million, Boerner said, but medical schools alone (other health schools also participate) estimate they will need more than $110 million in fiscal 1983 "for this, the high cost loan of last resort."

* * * *

The government has proposed new regulations for kidney dialysis designed to save $130 million a year.

The proposals, which already have drawn fire from some patients' groups, call for prospective reimbursement of facilities and for a single rate whether dialysis is at home or at a facility. "This should encourage home dialysis where costs are lower, when the physician recommends home dialysis," said the Health and Human Services Department (HHS).

Under a proposed new methodology for computing rates, average reimbursement would be $132 per treatment for hospital-based facilities and $128 per treatment for independent facilities.

"By basing the rate on median costs experienced by all facilities, HHS will be providing a fair return to the efficient provider," said HHS.

The End-Stage Renal Disease Program (ESRD) will cost Medicare about $1.8 billion this fiscal year at an average cost per patient of $24,000. There are 59,000 patients covered.

About 17 percent of dialysis patients are treated at home "through home dialysis is believed to be suitable for 30 to 40 percent of patients," HHS said. Median cost is $97 per treatment.

* * * *

Cigarette smoking is the chief avoidable cause of death in this country and the most important public health issue of our time, said C. Everett Koop, M.D., Surgeon General of the Public Health Service (PHS).

Releasing the annual PHS report on smoking and health, Dr. Koop said male smokers have double the cancer death rate of non-smoking males and that female smokers have a 30 percent higher cancer rate than non-smoking females.

About 129,000 Americans will die this year of smoking-related cancer, the report said.

The Tobacco Institute released a statement that disputed the link between smoking and cancer. "While statistical associations may raise valid questions and suggest possible leads for further research, they do not prove a cause-and-effect relationship," said Institute chairman Horace Kornegay.

* * * *

Federally-funded clinics will have to notify parents of teenagers within 10 days after prescribing contraceptive drugs or devices, under a proposed regulation of the Health and Human Services Department (HHS).

HHS Secretary Richard Schweiker said "parents should know when a child . . . is being given a prescription drug . . . so they can be aware of any health risk their child is taking."

Supporters of the federal family planning program in Congress, led by Rep. Henry Waxman (D-CA), have protested that the new regulations will discourage youths from seeking clinic advice and that the effect violates patient confidentiality.

"The health of teenage Americans would be endangered if proposed regulations are enacted forcing clinics to notify families of young people who are seeking family planning help, Luella Klein, M.D., of the American College of Obstetricians and Gynecologists, told the House Subcommittee on Health. ACOG was joined in its opposition to such regulations by the AMA and the American Academy of Pediatrics.

Dr. Klein quoted an ACOG policy which, while urging professionals working with adolescents to encourage family involvement, states that the adolescent should not be denied care and services by reason of such consideration. Dr. Klein said the proposed regulations would "deter adolescents from seeking care" and "should be avoided in the interest of the adolescents' health."

Current Medicolegal Issues

THE CITATION—AMA

Physician Convicted of Involuntary Manslaughter for Negligence in Prescribing Drugs to Teenager

Evidence supported the conviction of a physician for involuntary manslaughter on the basis of negligence in prescribing drugs for a patient, a Pennsylvania appellate court ruled.

The patient, a 17-year-old girl, became unconscious while attending a party. She died early the next morning. The cause of death was found to be asphyxiation from aspiration of stomach contents due to depression of the gag reflex. Postmortem studies revealed the presence of the drugs amobarbital and secobarbital, and components of Tuinal (a barbiturate prescribed as a hypnotic or sleeping pill).

The physician was prosecuted for involuntary manslaughter. At the trial, medical and toxicological experts testified that the depression of the patient's gag reflex was caused by ingestion of the drug. Evidence revealed that in the seven weeks before her death the physician prescribed numerous drugs for her, including seven prescriptions for Tuinal. Testimony indicated that on the night of the party the patient had in her possession a bottle containing a prescription issued that same day.

The county coroner testified that the size of pills prescribed for the patient was double the normal size and that it was questionable practice to prescribe Tuinal to an outpatient. He said that prescribing the drug to a 17-year-old girl in the amounts and frequencies shown was overprescribing, irresponsible, and wrong. The deputy coroner concurred and said that fatal results were possible in such case.

A pharmacist testified that the patient came into his store in a stuporous condition on one occasion. He phoned the physician and described her condition, but the physician told him to fill her prescription anyway. The jury found the physician guilty.

On appeal, the physician contended that there was insufficient evidence to support his conviction. He also contended that there was no proof of direct causation between his acts and the patient's death. The court said that the physician's acts did not need to be the direct cause of death but that he would be criminally responsible if his acts contributed in producing death.

Affirming the trial court's decision, the court found that the record supported the jury's conclusion that the physician consciously disregarded a substantial and unjustifiable risk, involving a gross deviation from the standard of conduct that would have been observed by a reasonable person.—*Commonwealth of Pennsylvania v. Youngkin,* 427 A.2d 1356 (Pa. Super. Ct., Jan. 5, 1981; reargument denied, April 24, 1981)

Expert Testimony Required to Prove Medical Malpractice

A trial court properly set aside a verdict in favor of a patient who claimed that a surgeon was negligent in removing an aneurysm in his right leg, a New York appellate court ruled.

An arteriogram showed the aneurysm to be located in a blood vessel behind the right knee. When the operation was performed, the aneurysm was found to be in the blood vessel within the sciatic nerve, a condition of extreme rarity. A procedure was performed to remove the aneurysm, but later the 60-year-old patient suffered drop foot.

He filed suit to recover damages on theories of malpractice and lack of informed consent. A jury returned a verdict for the patient on the malpractice claim and for the physician on the informed consent claim. A trial court set aside the verdict for the patient on the ground that he offered no expert testimony that the surgeon was negligent.

Affirming the decision, the appellate court noted testimony by the surgeon's experts that the patient's drop foot was caused by the cumulative effect of the aneurysm and unavoidable dissection of tissues and handling the nerve during the operation. There was no proof that the surgeon was negligent. Nor was there any

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THE CITATION is a newsletter on medicolegal issues prepared by the Office of The General Counsel of the American Medical Association.

expert testimony to support the patient's theory that the nerve was cut.—*Spitzer v. Ciprut,* 437 N.Y.S. 2d 27 (N.Y. Sup. Ct., App. Div., March 23, 1981)

Hospital Negligent in Having Inadequate Staff

A hospital breached its duty in having a less than adequate staff on hand and in failing to at least verbally answer a patient's assistance light, a Louisiana appellate court ruled.

The patient, an obese 57-year-old woman, was admitted to the hospital suffering from severe congestive heart failure and diabetes. She was instructed to call for assistance if she needed to get out of bed because she was weak and was taking drugs that could affect her mental clarity.

Four days after her admission, the patient fell in attempting to get into or out of her bed. X-ray examination revealed a slight compression fracture of the first lumbar vertebrae.

In a suit against the hospital, the patient contended that she had activated the light indicator button to summon a nurse to help her walk to the bathroom. After waiting for at least 15 minutes with no response, the patient got out of bed on her own. She alleged that she walked to the bathroom unassisted and slipped when she was returning. The trial court awarded the patient $7,500 for pain and suffering.

On appeal, the hospital contended that there was insufficient evidence to prove negligence. The court found the evidence to be ample. A hospital orderly testified that he had found the patient half on the floor and half on the bed and in severe pain. He said that there was urine on the floor, which the court said indicated that the patient was getting out of bed without help only because she needed to use the bathroom immediately.

The patient's physician said that the vertebral fracture did not appear on any previous X-rays. Her husband testified that when he had visited her on the previous night she had been heavily sedated and disoriented.

The court said that if the hospital was not adequately staffed to give prompt assistance to such patients, other measures, such as putting up bed rails, should have been taken. Finding no evidence that the patient was contributorily negligent, the court affirmed the trial court's judgment.—*Leavitt v. St. Tammany Parish Hospital,* 396 So. 2d 406 (La. Ct. of App., March 2, 1981)

Damages Awarded to Oral Contraceptive User

A patient and her husband were entitled to an award of $700,000 for injuries to the patient from taking an oral contraceptive, a federal appellate court in New Hampshire ruled.

The patient used Ortho-Novum 2 mg. contraceptive tablets from August 29, 1967 to November 14, 1971. On November 15, 1971, she suffered a cerebral thrombosis that initially left her totally paralyzed on her left side. She was 27 years old and employed as a hairdresser. As a result of the stroke, the patient, who was left-handed, did not have functional use of her left hand or arm and suffered from a lesion of the right ulnar nerve and carpal tunnel syndrome on the right side. Other effects of the stroke were epileptic-like seizures, depression and difficult breathing and swallowing.

In a products liability action against the manufacturer of the contraceptive, the patient and her husband claimed strict liability based on a design defect and lack of adequate warning. They alleged that by 1971 the manufacturer was marketing other oral contraceptives that were equally effective but that contained much lower doses of estrogen. They argued that the 2 mg. tablet was therefore defectively designed and unreasonably dangerous. Since the manufacturer did not take the drug off the market, it should have warned physicians that the 2 mg. tablet posed a much higher risk of cerebral thrombosis than lower estrogen products. A jury awarded the patient $600,000 and her husband $100,000.

Affirming the decision, the appellate court said that the manufacturer could be held liable on both the design defect and lack of warning theories. There was expert testimony that a study established a correlation between dose of estrogen and risk of cerebral thrombosis and that the labelling for the drug did not refer to that study, the court said.—*Brochu v. Ortho Pharmaceutical Corporation,* 642 F. 2d 652 (C.A. 1, N.H., March 3, 1981)

Global Distribution of Penicillinase-Producing Neisseria Gonorrhoeae (PPNG)

CENTERS FOR DISEASE CONTROL
H.E.W., PUBLIC HEALTH SERVICE, ATLANTA, GA.

Strains of penicillinase (β-lactamase)-producing *Neisseria gonorrhoeae* (PPNG) continue to spread throughout the world. The number of countries where PPNG has been identified through May 1981 (Table 1) appears to be limited only by the capacity of local laboratory services to isolate and test for these strains. Many countries with good surveillance systems have observed 2- to 6-fold increases in the number of such cases reported within the last 18-24 months.

Gonococcal strains partially resistant to penicillin and other antibiotics have long been recognized, and infections caused by them have been treated with dose increases or with alternative antibiotics. However, many areas of the world now have a high proportion of patients for whom penicillin therapy is not effective because of gonococcal strains with plasmidmediated resistance. Alternative regimens for effective treatment may be difficult to identify and may result in increased treatment costs to the point where many governments or patients can no longer afford such treatment. Because alternative therapies are expensive, less effective treatments such as penicillins continue to be used. This further selects for drug resistance and extends the infectious period for patients. Thus, gonorrhea transmission may be expected to continue, and the proportion of infected patients who develop complications may be expected to rise.

Table 1

LOCATIONS WITH IDENTIFIED STRAINS OF β-LACTAMASE-PRODUCING NEISSERIA GONORRHOEAE THROUGH MAY 1981*

Africa	Americas	East Asia	Europe	South East Asia
Morocco	Canada	Philippines	France	Indonesia
Ghana	United States	Hong Kong	Belgium	Singapore
Mali	Mexico	Taiwan	Netherlands	Malaysia
Nigeria	Panama	Guam	United Kingdom	Thailand
Central African Republic	Argentina	Japan	West Germany	India
	Colombia	Republic of Korea	Denmark	Sri Lanka
Gabon		New Zealand	Poland	
Zaire		New Hebrides	Switzerland	
Madagascar		Australia	Sweden	
Zambia			Norway	
Senegal			Finland	

*Information obtained through WHO Epidemiological Surveillance System: adapted from PAHO Epidemiologic Bulletin.

Editorial Note: The number of cases of PPNG infection, reported in the United States increased from 328 in 1979 to 1,099 in 1980[1] and to 1,910 in the first 9 months of 1981.[2] This trend apparently resulted from increases in numbers of cases of imported disease (mainly from the Philippines, Thailand, and the Republic of Korea) and from sustained domestic transmission in major metropolitan areas (particularly New York City, Miami, and Los Angeles). Importation of disease and subsequent transmission within the United States can be expected to continue. However, the effect of such continuing importation can be minimized by more widespread adherence to the use of 2 g of spectinomycin for initial treatment of uncomplicated, anogenital gonorrhea in patients who acquired the disease in countries with areas of high PPNG prevalence.[3]

In some areas of the United States, intensified efforts have been successful in controlling the infection even after a period of sustained domestic transmission. In Washington state, while the proportion of imported cases increased from 15% in 1980 to 41% in the first 9 months of 1981, the total number of PPNG cases decreased from 96 to 26 in the same periods. In Los Angeles, the number of PPNG cases averaged 49 per month between January and July 1981 while the control effort was being developed; then for the months of August through November, PPNG cases decreased to 33, 33, 11, and 17, respectively. Miami, which had a peak of 61 cases in August, reported 49, 26, and 13 in September, October and November, respectively.

Continued efforts to control PPNG transmission in this country must include testing of all gonococcal isolates for penicillinase production; prompt identification of sexual partners of all PPNG patients; screening of all groups considered to be at high risk of PPNG infection; and treatment of all the following with 2 g of spectinomycin: all PPNG patients and their sexual partners; patients who acquired gonorrhea in countries with high PPNG prevalence; and all patients for whom penicillin, ampicillin, amoxicillin, or tetracycline is not effective treatment for gonorrhea.

Evaluation of control strategies in the United States will continue. At the same time, operational research will be essential in countries with high PPNG prevalence to identify effective, feasible control strategies; to limit the adverse health effects of PPNG on people in these countries; and to reduce international transmission of PPNG.

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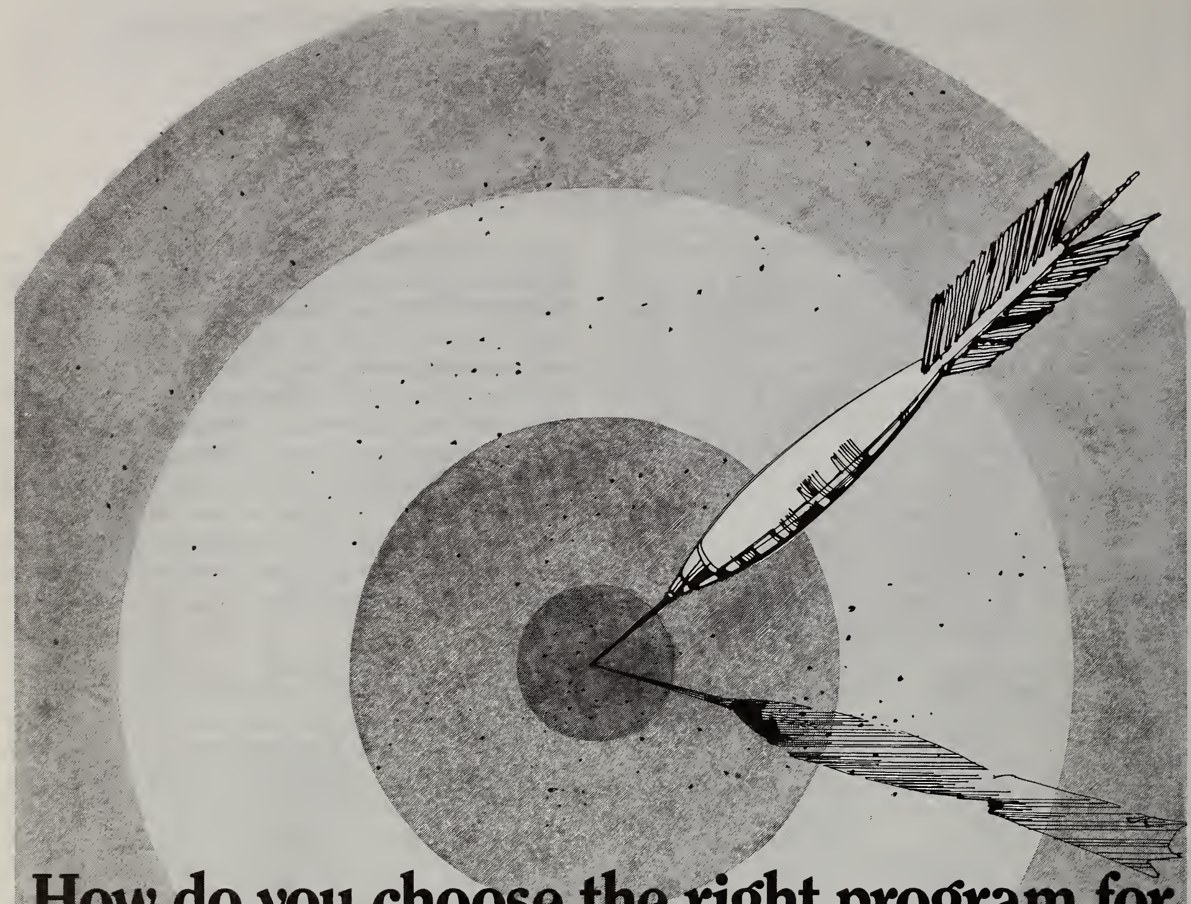

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Reflections from the Dean's Office

Koch's Lymph

ROBERT U. MASSEY, M.D.

Alfred North Whitehead was right when he said that learning begins with romance. Other motives take over later, but hearing the story of Ulysses, and wanting to hear how Homer really told it, is the only reason to begin the study of Greek verbs.

I suspect that Paul de Kruif's *Microbe Hunters* fired the romance for medicine for more than a few in my generation. It was about the time when I was reading *Treasure Island* in school that I found *Microbe Hunters* on my father's bookshelf, and learned about Leeuwenhoek, Spallanzani, Pasteur, and Koch. Koch had been dead less than 25 years; now a century has passed since he reported his findings on tuberculosis to the Berlin Physiologic Society, a small, distinguished group which included Paul Ehrlich and Emil duBois-Reymond, but from which Rudolf Virchow was absent that night of March 24, 1882. The author of *Cellularpathologie* had taught that scrofula and consumption were different diseases; Koch's discovery would show that he was wrong.

Koch's romance had started with dreams of the sea and with travel; he had wanted to be a ship's doctor or a military physician, but his bride, Emmy Fraatz, would not consider travel abroad. After several dreary appointments, he moved to Rakwitz, now in Poland, developed a successful practice, and would have remained but for the outbreak of the 1870 war with France. In spite of his myopia, he joined the Prussian Army and was attached to a typhoid hospital at Neufchateau. His former patients petitioned him to return, which he did, but shortly moved on to become the *Kreisphysicus,* or district medical officer, at Wollstein. For eight years he practiced there pursuing his hobbies of anthropology and microscopy; he had acquired an excellent *Hartnack* microscope (de Kruif says his wife bought it for him for his twenty-eighth birthday), and set up a laboratory at home adjacent to his consulting room. It was cluttered with glassware, an incubator, and photographic equipment. Here he could pursue his romance of natural science between his patient visits and his work as a public health officer. In this laboratory he cultured *Bacillus anthracis,* and in 1876 published his classical paper on the etiology of anthrax, the first proof of the bacterial cause of disease.

In 1880 Koch was called to Berlin as advisor to the Imperial Department of Health, sharing a laboratory with his assistants, Friedrich Loeffler and Georg Gaffky. It was here that he developed the technique for producing pure cultures by using a solid nutrient gelatin medium. Here also he began his work with the tubercle bacillus, which culminated in his definitive paper published 100 years ago this month, "Die Aetiologie der Tuberculose."

The painstaking science of that work is unexcelled; this is Whitehead's second stage, the stage of precision. The final stage, the stage of success, should be wisdom, but it is a time of danger. Koch was caught up in administration and teaching, in field excursions, lecturing, and editing journals. In the midst of this, he resumed experimental work, this time working alone, determined to find a remedy for tuberculosis. Prematurely, he announced discovery, did not reveal its nature, worked collaboratively with the Höchst pharmaceutical firm, and began to speak of cures.

There were pilgrimages to Berlin; hospitals, clinics, and hotels were filled with patients seeking to be cured by Koch's *lymph.* For five months, he withheld the formula, but in January, 1891, urged by his colleagues, Koch revealed that his *tuberculin* was only a glycerine filtrate of pure cultures of tubercle bacilli. There was concern that the claims had been exaggerated; Virchow described exacerbation of inflammation in treated cases. The government continued support, creating an Institute for Infectious Disease with Koch as director. Its budget, protested Virchow, equalled that of all the research funds at the University of Berlin.

Subsequently, when hypersensitivity to tuberculin was defined and its diagnostic value recognized, Koch's unseemly haste and exaggerated claims were forgotten. He retired with honors at 60, with a generous annual honorarium; the Nobel came two years later in 1905.

He died in Baden-Baden in 1910 at the age of 67. He had divorced his wife, married an actress, and Germany was scandalized, but Paul Ehrlich described this general practitioner from Wollstein as one of "the few princes of medical science." Clearly he was present at the beginning.

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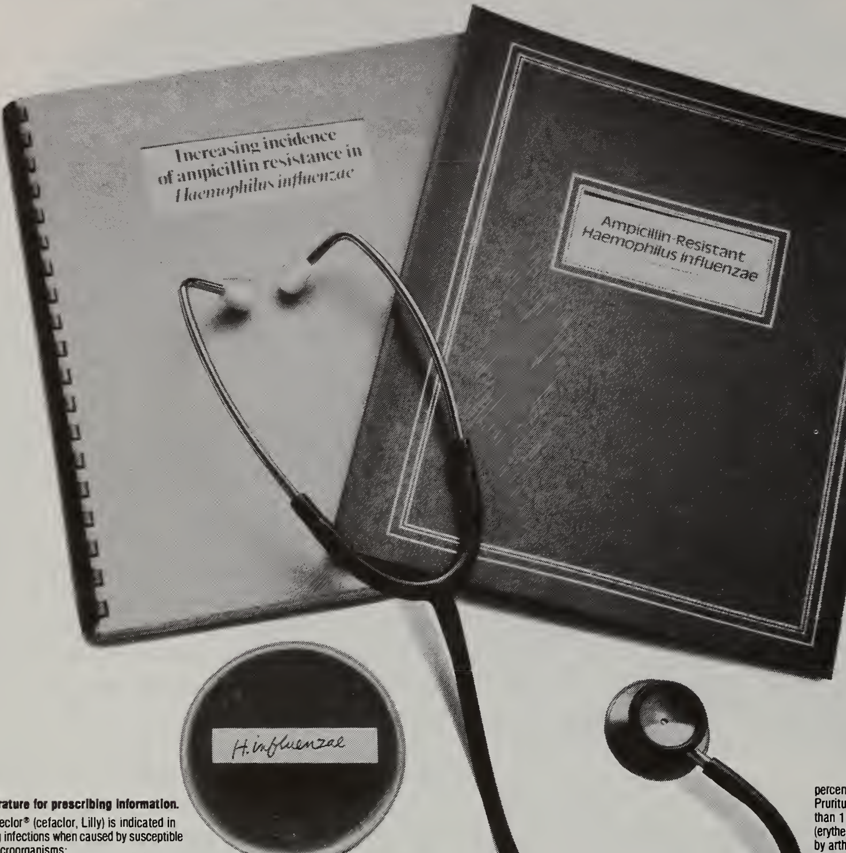
ROBERT U. MASSEY, M.D., Professor and Dean, School of Medicine, University of Connecticut Health Center, Farmington.

An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin-Resistant Haemophilus influenzae
H. influenzae
S. pneumoniae

Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae,* and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coomb testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: Adverse effects considered related to cefaclor therapy are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Ceclor.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor® (cefaclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [100281R]

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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The Rights of Minors and the Rights of Parents Revisited III

JOSEPH M. HEALEY, J.D.

The English cases described in my last two columns serve as a reminder of the universal nature of the issues at stake in parental refusal of treatment for children in the newborn nursery. They also serve as a reminder of the difficulties involved in developing resolutions acceptable to the various parties involved. It is sobering to realize that there has been persistent public attention paid to the withholding or withdrawal of treatment from children in the newborn nursery for at least 8½ years since the milestone Duff-Campbell[1] and Shaw[2] articles appeared in 1973. In many ways, we have not made substantial progress in resolving disputes about how such cases should be managed. In closing this trilogy on the rights of parents and children, it is appropriate to examine once more the fundamental issues involved and to consider the likelihood that an acceptable resolution of these disputes will occur in the foreseeable future.

A long-standing principle in the Anglo-American legal system is that parents have a legal obligation to provide all the necessities of life for their children, including necessary medical care. Failure to provide necessary medical care is a basis for potential civil and criminal liability for parents, physicians and health care providers. The application of this principle in the context of the newborn nursery is made difficult by ambiguities in determining what constitutes necessary medical care. If we view the cases in the newborn nursery as part of a spectrum, there are extreme cases which reasonable persons would resolve in a straightforward manner. At one end of the spectrum, are those cases involving infants for whom there is no efficacious treatment available. These are cases in which death is inevitable and unavoidable. In these cases, there is no legal duty to provide non-efficacious care. At the other end of the spectrum are those cases in which a request to withhold or withdraw treatment is made in a situation in which efficacious treatment exists and the alleged justification for withdrawal or refusal is clearly inappropriate. There is no legal right to withhold or withdraw treatment in these cases. There is a clear legal duty to provide treatment. The more difficult cases, of course, fall between these two extremes and involve areas of medical uncertainty, areas of unclear diagnosis and prognosis, and areas of severe physical and mental handicaps. Given the broad range of cases involved in the newborn nursery, these cases represent only a limited part of the spectrum, though it is clearly a critical part. These cases involve a complex interplay of clinical judgment, concern for the infant and respect for the family which defies simple generalizations or platitudes. It is these cases in which determining what "necessary medical care" really means presents an enormously difficult task. At one extreme, we must avoid the tyranny of technology which would compel us to use a biomedical intervention simply because it exists, regardless of its efficacy. At the other extreme, we must avoid the tyranny of survival by selection which would permit the deaths of infants who could survive because parents and health providers do not approve of their minimal physical or mental handicaps. The difficult zone is the middle zone and the difficult question is the amount of discretion, in the face of ambiguity and uncertainty, we are willing to allow health care providers and parents in making these difficult judgments.

It is unlikely that there will be a satisfactory resolution of such disputes as long as those with competing concerns and different points of view emphasize their differences rather than their broad range of agreement. In listening to the debates about abortion and about decision-making in the newborn nursery I am continually impressed by the degree of shared concern. Sensitivity to moral and legal concerns is not the exclusive possession of either side. There are enormous areas of overlap. If there is to be a resolution of the disputes about care in the newborn nursery, it is more likely to occur because of the shared commitment of care providers and parents to the fundamental principles described above rather than by attempts to impose an arbitrary duty to treat all regardless of their medical condition or an arbitrary right to withhold treatment from any regardless of their medical condition. Given the adversarial atmosphere surrounding public discussions up to now, I am not overly optimistic that there will be sufficient trust and mutual respect to resist the extremes and to encourage appropriate, individualized resolution of these complex cases in the middle part of the spectrum. On the other hand, such a breakthrough might be the long-awaited step toward a reduction in the long-standing tension between law and medicine.

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EDITORIALS

If Your Patient Asks About Exercise

Actually, your patient may never ask!

Government and health organizations now encourage any individual to start a program of substantially increased physical activity without physician's advice. The American Heart Association's revised *Statement of Exercise* published on page 215 in this issue of *Connecticut Medicine* lists as exceptions those with "known or suspected cardiovascular, respiratory, metabolic, orthopedic or neurologic disorders." "Older sedentary individuals may also wish to seek medical advice." (How old is "older"? 50? 60? 70?) The National Heart, Lung and Blood Institute, in its recently published booklet "Exercise and your Heart," interprets "older" as 60, advising that if others can satisfactorily complete a self diagnostic check-list of symptoms, then no further medical clearance is necessary before starting vigorous activity.

This surprising new approach was widely reported in the lay press. "Parade" magazine in November 1981 featured an article headlined "It May be Okay to Start Exercising Without Seeing a Doctor First." Dr. Stephen Havas, Chief of the Bureau of Health Promotion and Disease Prevention of the Connecticut Health Department, is quoted in subheadlines "The fact is that most doctors don't know much about exercise. Medical Schools don't teach it." Also, "stress testing yields lots of wrong results."

I object to the non-specific guidelines for involvement of medical professionals in the revised *Statement on Exercise.* I disagree that those under 60 need not seek medical clearance. I am offended by the statements in "Parade" which downgrade the average practising physician's contribution in such screening evaluation. I deplore the denigration of the stress test in prescription of such exercise.

The efforts of these organizations to encourage broad participation in exercise are highly commendable. I enthusiastically advocate the benefits of exercise for known cardiac patients, as well as for cardiac-prone individuals if they have proper medical supervision.

Exercise can be a double-edged sword. In our zeal to extend its benefits, we should be equally zealous in preventing its potential harm to vulnerable individuals. Malignant ventricular arrhythmias and sudden death during exercise have been reported. While these events may be infrequent, we are responsible for the safety of each patient. Coronary artery disease (CAD) is not uncommon over age 40. Many are asymptomatic, or have obscure symptoms. Approximately one half of patients with CAD present not with identifying stable angina, but with myocardial infarction or sudden death as the first symptom.

A patient check-list, even if it is accurately filled out, will not identify silent CAD or elicit subtle or obscure symptoms. Furthermore, pre-empting the physician from screening and advising the patient, reduces his role in recognition and control of other risk factors. If doctors don't learn about exercise in medical school, then let's add it to the curriculum, and let's learn about it through continuing medical education. After all, many of us never learned in school about such developments as cephalosporins, echocardiography, Swan-Ganz lines, pacemakers, endoscopy, beta blockers or calcium channel inhibitors—but we kept up. Don't remove the primary physician as the patient's quarterback. The patient should assume considerable responsibility, but he shouldn't "play doctor."

Valid criticism of stress testing, because of its lack of high specificity in an asymptomatic population, need not negate its value as a *functional* rather than purely diagnostic test. Bayes' Theorem analysis of stress testing accuracy refers to the value of ischemic ST depression in *diagnosing* CAD. However, a properly

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Editorials are expressions of personal opinion and do not necessarily reflect the policies of CSMS.

conducted test with careful attention to blood pressure and pulse response, subjective perceived exertion, and arrhythmia detection is invaluable in the *prescription* of exercise.

I believe that any apparently normal but sedentary male over age 40, and any apparently normal sedentary post-menopausal female should seek medical advice prior to starting an exercise program more vigorous than brisk walking. The government and health agencies can help to protect our middle-age patients with asymptomatic heart disease by encouraging this contact and by stimulating appropriate continuing medical education.

To quote the preamble of the American Heart Association *Statement* itself, "The potential risk of vigorous physical activity can be reduced by appropriate medical clearance, education and guidance."

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Monoclonal Antibodies: The Next Attempt at Tumor Immunotherapy

For the past decade, the concept of tumor immunotherapy has shown far more promise than delivery. Despite glowing expectations, the reality of attempted immunotherapy, even in experimental animal models, has not resulted in the type of dramatic tumor rejection which had been envisioned by immunologists at the inception of immunotherapy. The early demonstration of apparent "tumor-specific antigens" was based on tumor transplantation studies in inbred experimental animals. Although unique tumor antigens appeared in chemically induced tumors, almost all virally induced tumors shared common antigens; in fact, many of the "tumor-specific antigens" turned out to be simply tumor-associated antigens and occurred on normal tissue under various circumstances, including embryonic development.

Several clinical observations have indicated that the human immune system probably does respond to tumor in a specific manner, and this suggests the presence of tumor-specific antigens. These observations included the spontaneous regression of tumors and the increased incidence of tumors in patients who were immunologically suppressed by congenital or acquired immunodeficiencies (for example, immunosuppressive therapy). Additionally, circulating antitumor antibodies have been demonstrated in many patients with different types of malignancies, and cell-mediated immune responses have been demonstrated by delayed hypersensitivity reactions to autologous tumor preparations. Recently, in vitro studies have revealed sensitization of lymphocytes to tumor-specific antigens by mixed lymphocyte tumor cell reactions and cell-mediated cytotoxicity assays. Current studies at the National Cancer Institute are attempting to derive clones of cytolytic T cells which have specificity for human tumor antigens.[1]

Despite the evidence that humans can mount immune responses to various cancers, and although "tumor-associated antigens" appear to be present on human cancer cells, these cells seem to escape destruction by the immune system. Several mechanisms have been proposed to explain the inability of cancer-bearing patients to mount a competent immunologic response. It has been suggested that the secretion of tumor-associated antigens in soluble form might block effector lymphocyte receptors or form complexes with antibodies. It is possible that antibodies bind to the tumor without stimulating an effector humoral or cellular immune response; immune-directed damage to the tumor cells would thus be blocked. Additionally, antigens may be present only on a small proportion of neoplastic cells because of tumor heterogeneity or antigenic modulation. One hypothesis has suggested that tumor antigens stimulate the suppressor T cell system, which blocks specific cytolytic T cells.

There is overwhelming evidence that control of experimental tumor growth can be accomplished by immunotherapy. These observations were based on studies showing that animals that were preimmunized against tumors could reject syngeneic transplants of virus-induced or chemically induced tumors. Following this experimental animal model, several clinical trials have been introduced over the last decade. Immuno-adjuvants have been used in an attempt to enhance the host's tumor immunity. Such enhancement was generally nonspecific and involved administration of immuno-adjuvants (BCG, *Corynebacterium parvum,* thymosin, levamisole, and so on), which seem to promote a generalized increase or activation of immune responsiveness to a wide variety of antigens. Unfortunately, most of these clinical studies have not revealed any effectiveness of this type of immunotherapy in the treatment of patients with advanced disease. This lack of efficacy may be attributed to an excessive tumor burden which had already overwhelmed the host's immune system. Therefore, it seemed logical to administer nonspecific immunotherapy in situations in which there were smaller amounts of tumor (for example, as an adjunct to surgical removal of tumor or in conjunction with chemotherapy). Preliminary reports had indicated beneficial results with BCG in the postsurgical treatment of malignant melanoma[2] and in the treatment of non-small-cell lung carcinoma.[3] However, the most recent randomized clinical trials have not been able to reproduce these original positive results.[4-5]

Why has immunotherapy not provided an effective control of cancer? This question leads one to examine the basic premise that initially suggested that tumors were susceptible to immunologic control. It is entirely conceivable that human tumor antigens may differ biologically from tumor antigens induced in experimental animals by chemical carcinogens or by viruses. Indeed, spontaneous infrequent tumors of older mice have not been as antigenic or as readily controllable by immunotherapy. Once the tumor has progressed and has escaped immunologic surveillance it is entirely possible that general stimulation of the immune system cannot overcome the escape mechanism (that is, excess circulating tumor antigen, blocking antibodies, suppressor T cells, and so on). This concept is supported by experiments in laboratory animals which have revealed that immunization before tumor challenge has greater effectiveness in inhibiting tumor growth than administration of immunotherapy after the tumor has been established. Because of the widespread occurrence of metastatic disease and the types of patients studied, it is certain that no direct contact occurs between tumor cells and the adjuvant agent utilized in such nonspecific immunotherapy.

Some studies have tried to circumvent this problem by using intralesional injection of BCG into dermal melanoma metastases. This approach has produced regression of many of the injected lesions; however, lesions that were distant from the injection and visceral metastases showed little response. Specific immunotherapy has been attempted by immunization with isolated and purified tumor-associated antigens given in adjuvant or with neuraminidase-treated autochthonous tumor cells. Again, there are few positive data that would support the role of immunotherapy in the control of advanced disease. In fact, the concept of nonspecific immunotherapy may not be at all reasonable as a treatment of cancer. Evidence supports the concept that generalized immunosuppression is seen in many cancer patients. This evidence may not have been interpreted correctly, and in fact what was thought to be decreased immunoresponsiveness may simply represent homeostasis of the immune system in response to the tumor rather than an immune deficit or suppression. Therefore, efforts to bolster the immune system with nonspecific immuno-adjuvants would not be expected to be efficacious, since the immune system would have set a new homeostatic control and be preoccupied with the tumor, albeit ineffectively.

Given this rather bleak picture of the progress of immunotherapy over the past decade, where do we head from here? Perhaps recent advances in biotechnology, allowing the production of monoclonal antibodies, may provide potential therapeutic applications in oncology.[6-7] Monoclonal antibodies have already been found to provide effective therapy of transplanted leukemia in laboratory mice.[8] Additionally, monoclonal antibodies have been developed against antigens that are present on human tumors such as malignant melanoma[9] and carcinoma of the colon.[10] The technique of monoclonal antibody production has advantages over previous modes of immunotherapy in that antibodies produced in vitro against tumor-associated antigens do not rely on stimulation of the host's own immune system to produce antitumor activity (that is, passive immunotherapy as opposed to active immunotherapy).

Monoclonal antibodies are produced from hybrid cells, which are formed by the fusion of mouse myeloma cells with splenocytes obtained from mice that have been immunized with tumor cells. Once the hybrid cells (hybridomas) that secrete the desired antitumor antibody have been identified, they can be cloned by limiting dilution and they can be maintained in culture indefinitely for the large-scale inexpensive production of antibody.

Passive immunotherapy that makes use of heterologous antibody preparations from experimental animals has been utilized in some studies; however, this is not a common modality of treatment because of the risk of serum sickness inherent in the use of xenoantibodies. It is not known whether pure preparations of mouse monoclonal antibodies will have associated toxicities, but purified monomer IgG has been used as a toleragen in experimental situations. Anticipation of potential antigenic differences has led to efforts in the development of human monoclonal antibodies. Human myeloma cells have been isolated which possess characteristics necessary for fusion with human antibody-producing cells to construct hybridomas that secrete human antibodies.[11-12] This system would use human B cells with antitumor specificity; these perhaps would be cells obtained from lymphocytes immunized in vivo in patients who already had an antitumor antibody or from immunization of human lymphocytes in vitro.

Once such monoclonal antibodies that are specific for tumor antigens have been identified, the next possible technologic breakthrough might be the use of recombinant genetic engineering to obtain bacteria that manufacture the variable region of the antibody molecule which contains the binding site for the specific tumor antigen. This technology of genetic engineering has already made possible efficient production of human insulin and interferon. It involves the introduction into bacteria of nonbacterial genes with DNA-encoded messages for the production of the specific protein. Once the bacteria carrying the inserted gene for the specific protein has been cloned, it can be grown to manufacture the desired protein in vast quantities. It may be possible to utilize genes from antitumor antibody-producing mouse hybridomas to encode bacteria to manufacture the variable regions of the light and heavy chains, which can then be joined to form the specific antigen-combining portion of the antibody molecule. Immunotherapy with only the variable portion of the antibody molecule would probably minimize the potential immunotoxic complications associated with xenogeneic antigenicity. The variable region of the molecule would then, by necessity, have to be coupled with a cytotoxin, since the constant region is necessary for the natural effector humoral and cell-mediated immune mechanisms.

Tumor immunotherapy using intact monoclonal antibodies will depend on cytotoxicity from natural effector immune mechanisms induced in the host or the targeting of toxic drugs to the neoplastic tissues. Binding of the antibody to the antigen on the tumor cell surface might produce activation of the complement system, with resulting cellular lysis. In this instance, the monoclonal antibodies would have to be of a class that fixes complement. Monoclonal antibodies to tumor-associated antigens might also mediate tumor damage by inducing antibody-dependent cell-mediated cytotoxicity. In this case, intact antibodies would be required in order to bind with the F_c receptor of the effector lymphocytes.

If monoclonal antibodies are unable to kill tumor cells by the natural effector immune mechanisms, they could be attached to a cytotoxic "warhead" designed to attack the tumor cells.[13] These warheads may be constructed of radioisotopes, conventional chemotherapeutic agents, or bacterial or plant toxins coupled to the carrier antibody. Preliminary positive results have recently been reported by the use of radiolabeled anti-carcinoembryonic antigen heterologous antisera as treatment in patients with advanced biliary carcinoma.[14] Radionuclear scanning techniques have also shown radiolabeled heterologous anti-carcinoembryonic antigen and antihuman chorionic gonadotropin antibody localization at the tumor site.[15-16] Chemotherapeutic anticancer drugs have also been linked to heterologous antitumor antibodies. However, selective cytotoxic activity against malignant cells has not been demonstrated, perhaps because of the use of heterologous antibodies that lack high tumor-associated specificity. The use of conjugates of chemotherapeutic agents or radioisotopes with monoclonal antibodies may provide the specificity needed for effective in vivo antitumor activity.

Recent interest has developed in certain bacterial or plant toxins—for example, diphtheria toxin, abrin, ricin, and others—as warheads conjugated with antibodies.[17] These toxins have the advantage of extreme toxicity; cytotoxicity results from as little as a single molecule (catalytic action as opposed to stoichiometric action). They consist of two polypeptides: a binding (B) piece, which is specific against cell surface receptors, and an enzymatically active (A) piece, which inhibits protein synthesis. The B piece mediates transport of the A piece into the cytoplasm; separation of the two pieces by disruption of the conjoining disulfide linkage eliminates cytotoxic activity. Recently, monoclonal antibodies have been conjugated to A pieces to provide cell surface-binding specificity against tumor antigens. In vitro studies revealed that antibody-A piece complexes were selectively toxic only to those cells that expressed the antigen against which the antibody was specific.[18-19] A recent in vivo study utilizing treatment with these immunotoxins specific for an antigen present on murine leukemia cells significantly prolonged the survival time of mice challenged with leukemia cells.[20]

Since the antibody must reach its site of action in appropriate concentrations to produce significant tumoricidal effects, several pharmacokinetic factors will need to be considered.[21] Parenteral administration will lead to distribution of the antibodies into various extracellular spaces, the patterns of which may vary depending on the class of antibody. IgG is naturally distributed extravascularly, whereas most IgM is located intravascularly. In comparison, IgA is located mainly in seromucous secretions (although transport from serum to secretions is low). Tumor localization may be limited by the accessibility of the antigenic sites within the tumor, for it is well known that portions of the tumor may be poorly perfused or metastases may be located in privileged sites such as the central nervous system. In this instance, localization may depend on the class of monoclonal antibody or the size of antibody-warhead complex. Antibody-toxin complexes may also be metabolized by enzymatic reduction of the disulfide bonds, cleared by reticuloendothelial cells, or act as hapten carrier immunogens that could induce adverse toxicities.

Once all of the above technical factors have been worked out, the ultimate success of monoclonal antibodies in controlling tumors will depend on the specificity of the antigens that they are directed against. However, this form of immunotherapy has remarkable potential and will probably prove to be beneficial therapeutically in oncology. Thus, it is with great expectation that we view the next decade of immunotherapy. The hope of immunologists and oncologists is that the promise of immunotherapy will finally begin to pay dividends.

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Preparing for Your New Computer's Installation*

As often described, the process of selecting and negotiating for a practice's new computer system requires very considerable time and effort. Once the decisions have been made and the contracts have been signed, however, you cannot relax and decide all is done. There are still a variety of problems and planning details, some of which can be pushed off to the computer vendor but many which will require your attention, to assure that the actual installation will proceed smoothly.

Someone, for example, must check the local zoning building and fire regulations. Will special flooring be required to prevent fire hazards? Does the vendor's own "site preparation guide" recommend anti-static floor coverings (special rugs or tile) to prevent the build-up of static electricity? Since static can adversely affect the system's stored data, overlooking this detail could cause disastrous early weeks' operations.

Similarly, is your electrical service satisfactory? A so-called "dedicated circuit" will at least be required, and installation of a voltage regulator may be a good idea. These details should be pursued early enough not to delay actual installation and use.

Will your computer system require any changes in your office's heating or air conditioning? Most manufacturers say their equipment will function in the "human comfort zone," but this might be a smaller than expected temperature range. Since fluctuations in temperature and humidity can significantly shorten the hardware's life, the concern must be critically evaluated. Temperatures and humidity levels at night and on weekends, in mid-winter and heat of summer and specifically how they vary in the selected room (not the office generally) must be considered.

We recommend that at least 90 days be provided for checking out and preparing an office for the installation. Some details should be confirmed before the order is placed, but others need attention in the post-order, pre-installation stage. Letting them slide to the last minute would be unfortunate.

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Letters to the Editor

Letters to the Editor are welcomed and will be published, if found suitable, as space permits. They must be signed by all authors, typewritten in double spacing (including references), submitted in duplicate, must not exceed 1½ pages in length and will be subject to editing and possible abridgment. To be considered for publication, letters referring to a recent *Journal* article should be received within six weeks of the article's publication date.

DEPARTMENT OF INCOME MAINTENANCE RESPONDS

To the Editor: In a recent issue of *Connecticut Medicine* some inaccurate statements concerning the Department of Income Maintenance were made by Richard C. Hubbard, M.D., which I would like to try to clarify.

The Department of Income Maintenance only administers the Title XIX program in Connecticut for the federal government. The federal government sets the broad general policy for the program. The department is bound by determinations and interpretations made by federal government, state law and regulations.

The first issue that Dr. Hubbard raised in his letter concerned payment for services when not performed by a physician. One of the requirements for payment by the state for services, is that the service be provided by the person requesting payment. The relative value scale was developed for payment for physicians services. There is provision in the fee schedule for the services of paraprofessionals under the supervision of a physician. Paraprofessional services cannot be billed for at the physician rate. This has always been the policy of the department which has been discussed and supported by the Medical Liaison Committee of the Connecticut State Medical Society. It is not directed solely at "large providers" as Dr. Hubbard alleges. Hospital clinics and other free-standing clinics such as mental health clinics have an all-inclusive rate which includes the services of all staff, including physicians. Mental Health Clinic rates are lower than fees paid to private psychiatrists.

The department has not refused payment for EKG's done in nursing homes. A fee schedule has been established for this service. There is a specific code in the RVS for payment of injections when given by a nurse, including immunizations. The biologicals used are provided free of charge by the Health Department. The Department of Income Maintenance cannot be billed for these or any services provided free of charge elsewhere.

The private psychiatrist referred to owed the department in excess of $70,000 for overpayment of services. These overpayments resulted when the department was billed by the psychiatrist for services which were provided by his staff, mainly in his absence, rather than himself. After several years of correspondence, the department suspended payment to this psychiatrist, applying the funds towards the amount owed by the physician. The physician requested a hearing, which was held. The result of the hearing was to uphold the department's position and the psychiatrist has already refunded the full amount and has agreed to follow department regulations in the future. At no time did the department suggest that the psychiatrist stop treating patients. This was his own choice.

Mental Health Clinic fees are $15.00 not $19.86. The $19.86 fee is a hospital out-patient fee established by the hospital cost commission. The fees for the department are established by OPM the Office of Policy and Management and have to be supported by appropriate funds budgeted by the legislature. The department recognizes that the fees paid to physicians are low. Each year the department requests an increase in its budget for the purpose of increasing its fees. This request has not been approved in the last year and is unlikely to be approved in the foreseeable future *unless* considerable pressure is exerted on the legislature. Physicians should be able to communicate their concerns over inadequate fees, depriving the needy of much needed health care, to their representatives.

Finally, there is a Medical Liaison Committee of the CSMS which meets regularly with the department. This committee has been in existence for several years.

Clair M. Callan, M.D.

Medical Director,
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The above letter was referred to the author of the letter in question, who offers the following reply:

To the Editor: Dr. Callan's response to my letter in the November 1981 issue of *Connecticut Medicine* is not responsive. The bare facts of my personal experience with D.I.M. may shed light on a problem of importance to all physicians.[1]

In 1976 two accountants from D.I.M. audited my office records. They were in the office three hours and cross checked charge cards and patient records which I made freely available. Until they came to the office they were unaware I had a staff working for me. I requested feed back but heard absolutely nothing for over a year. On October 19, 1977 I received a letter from D.I.M. saying "If you do delegate some of your work, then you will have to apply for a clinic type provider number." This ignored the R.V.S. publication which is referred to by Dr. Callan. The scale makes provision for services rendered "by or under the supervision of the physician." The D.I.M. chose to ignore this regulation.

I complied with this directive thinking "clinic type" meant different from clinic. For payment purposes, however, I was classified as a mental health clinic a private and publicly supported charitable institution whose fee was $15. or ⅓ less than the fee paid a private practitioner. The D.I.M. then retroactively applied this fee to my total billings going back four years and came up with an alleged overpayment of over $70,000. These figures were derived from my total billings and assumed I saw no patients at all when in fact I saw some patients all of the time and all patients some of the time.

The reason D.I.M. classified me as a clinic is that it has no right to change the fee schedule established by the O.P.M. for a private practitioner. Dr. Callan clearly states this in her letter. My effort to point out the difference between a private practitioner and a charitable clinic supported by private and public funds fell on deaf ears.

The Director of Health Services said reimburse half and everything will be o.k. Otherwise we call the police. I felt this was extortion and chose to protest. He then admitted no fraud was alleged. Soon after my private provider number was deleted with no explanation to me. This was illegal since I've never been salaried, have always worked only in my private office and all work done in my office was done by me alone or under my direction and supervision. My private billing number was reissued to me October 15, 1981 but between January 1974 and that date my right to bill as a private practitioner was denied.

The years of correspondence mentioned by Dr. Callan were my effort to get the D.I.M. to give me written definitions and regulations applying to my case. None were forthcoming. I wanted assurance of not being subjected to arbitrary unwritten interpretations of rules, regulations and definitions. I wanted assurance that what applied to me applied to all and was indeed based on law. This has not been forthcoming to date.

Does the D.I.M. treat all providers the way it treats doctors? If a lawyer uses a paralegal, a plumber an assistant, a carpenter a helper are they all clinics and paid accordingly? Why should a doctor in private practice be penalized for delegating work which is accepted practice in a hospital?

My problem with the D.I.M. will go to a civil suit where I hope to experience due process of law and then I'll hold my peace.

Meanwhile the problem of providing care for the chronically ill and indigent patient remains with us. I feel I provided an innovative, productive and cost effective service which was blindly stamped on. When the D.I.M. withheld all payments for 18 months I had to reduce my patient load. The doctor working for me started his own practice. Two patients who were referred elsewhere committed suicide and I feel there is some chance they would still be alive if their transference to my office had not been broken.

Who is speaking up for them?

R.C. Hubbard, M.D.

Bethel, CT

REFERENCE

1. The Chronic Mental Patient John A. Talbot, M.D.

IN MEMORIAM

EVANS, THEODORE S., Physicians & Surgeons, Columbia Medical School, 1921. Dr. Evans was a hematologist in the New Haven area since 1924. He was one of the first physicians to specialize in hematology, and won international acclaim in that field. He served as president of the New Haven Branch of American Cancer Society, president and cabinet member of New Haven Medical Association, and as chief of medical services at Yale-New Haven Hospital, St. Raphael's Hospital and Griffin Hospital in Derby. He founded the leukemia department at St. Raphael's Hospital, and was a member of the New Haven County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Evans died January 25, 1982, at the age of 86.

FLYNN, HAROLD A., Yale University School of Medicine, 1927. Dr. Flynn was a general practitioner in the New Haven area since 1927. He was a member of the Hospital of St. Raphael staff and served as a medical officer in the Army during World War II. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Flynn died January 30, 1982, at the age of 79.

HENNESSY, JAMES J., Columbia University College of Physicians & Surgeons, 1930. Dr. Hennessy was a practitioner in the Hartford area, specializing in chest diseases, since 1930. He was a lieutenant commander in the Navy during World War II. Before serving in the Navy, he practiced medicine in Waterbury. After World War II he started his medical practice in Hartford. He was consultant to the Hartford Health Department, a staff physician at Cedarcrest Hospital in Newington, a fellow of the American College of Chest Physicians, and a member of the American Trudeau Society. He served on the staff of St. Francis Hospital and Medical Center and was a past president of the medical staff. He also was a member of the staffs of St. Mary's Hospital in Waterbury, New Britain General Hospital, Litchfield County Hospital, and Manchester Memorial Hospital. He was a member of the Hartford County Medical Society and the Connecticut State Medical Society. Dr. Hennessy died January 29, 1982, at the age of 81.

HIRSCHFELD, OTTO M., Tufts Medical School, 1931. Dr. Hirschfeld was a general practitioner and surgeon in the Hartford area more than 50 years. He was on the staff of Mt. Sinai, St. Francis and Hartford Hospitals, and was recently honored by Mount Sinai Hospital for many years of distinguished service to the hospital. He was a member of the Hartford County Medical Association and the Connecticut State Medical Society. Dr. Hirschfeld died February 15, 1982, at the age of 76.

MAGIDA, MELVILLE G., Long Island College of Medicine, 1946. Dr. Magida was a internist in the Fairfield area since 1952. He served as a clinical professor of medicine at New York Medical College and an attending and former chief of medicine (1964 to 1971) at Stamford Hospital. He was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Magida died December 24, 1981, at the age of 58.

PLATZ, JOSEPH, University of Cologne, Germany, 1931. Dr. Platz was a general practitioner in the Hartford area since 1952. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Platz died December 30, 1981, at the age of 76.

WIES, FREDERICK A., Yale Medical School, 1933. Dr. Wies was a ophthalmologist in the New Haven area since 1935. During World War II he served as a Major in the U.S. Army. He practiced in the New Haven area for more than 40 years and was a retired clinical professor of ophthalmology at Yale University School of Medicine. Dr. Wies died January 19, 1982, at the age of 74.

WEISSENBORN, WALTER, Johns Hopkins School of Medicine, 1932. Dr. Weissenborn was a internist in the Hartford area since 1932. He was Hartford's medical examiner from 1940 to 1960. He was a past president of the Hartford County Medical Association, the Connecticut State Medical Society and the American Medical Association, and a veteran of World War I. Dr. Weissenborn died December 10, 1981, at the age of 86.

190th ANNUAL MEETING
OF THE
CONNECTICUT STATE MEDICAL SOCIETY
PARKVIEW HILTON HOTEL, HARTFORD
Thursday, May 27, 1982

GENERAL SCIENTIFIC PROGRAM

MORNING SESSION

8:15 REGISTRATION — Hotel Lobby
8:30 - 10:00 MEETINGS OF SECTIONS
10:00 INTERMISSION TO VISIT EXHIBITS

BALLROOM

10:20 CALL TO ORDER AND WELCOMING REMARKS
President,
Connecticut State Medical Society
Presiding: Hugh L. Dwyer, M.D.,
New Haven

SYMPOSIUM ON IMAGING

10:30 MODERN IMAGING APPROACH TO THE BILIARY TRACT
FREDERICK U. CONARD, M.D.,
Assistant Professor of Radiology,
University of Connecticut Health Center,
Farmington, CT

11:00 MODERN IMAGING APPROACH TO GASTROINTESTINAL BLEEDING
ROBERT D. RUSSO, JR., M.D., Director of Diagnostic Radiology,
St. Vincent's Hospital,
Bridgeport, CT

11:30 THE IMAGING CONSULTANT
ANTHONY F. LALLI, M.D., Director of Clinical Radiology, Cleveland Clinic,
Cleveland, OH

12:15 PANEL DISCUSSION:
Moderator: Thomas Spackman, M.D., Farmington
Panel: Frederick U. Conard, M.D., Farmington; Robert D. Russo, Jr., M.D., Bridgeport; Anthony F. Lalli, M.D., Cleveland

12:30 INTERMISSION TO VISIT EXHIBITS
1:00 LUNCHEON

AFTERNOON SESSION

Presiding: Edward Dunn, M.D., Waterbury

SYMPOSIUM: NEW DIRECTIONS IN THROMBO-EMBOLISM

2:00 PROPHYLAXIS
GRAHAM TURPIE, M.D.,
McMaster University,
Hamilton, Ontario, Canada

2:30 NEWER TECHNIQUES IN NON-INVASIVE DIAGNOSIS
CHARLES A. BUCKNAM, M.D.,
Thoracic Surgeon,
Hartford, CT

3:00 THROMBOLYTIC THERAPY, MECHANISMS OF ACTION, INDICATIONS AND COMPLICATIONS
MATTHEW A. MILLER, M.D.,
Director of Pulmonary Medicine,
Danbury Hospital, Danbury, CT

3:30 PANEL DISCUSSION:
Moderator: Edward Dunn, M.D., Waterbury
Panel: Graham Turpie, M.D., Hamilton, Ontario; Charles A. Bucknam, M.D., Hartford; Matthew A. Miller, M.D., Danbury

INTERMISSION TO VISIT EXHIBITS

4:00 MEETINGS OF SECTIONS OF THE SOCIETY

FROM THE EXECUTIVE DIRECTOR'S OFFICE

160 St. Ronan Street, New Haven, Conn. 06511 Telephone 865-0587

Timothy B. Norbeck, *Executive Director*
Josephine P. Lindquist, *Associate Executive Director*

Francis G. Sweeney
Assistant Executive Director
Public Affairs

Robert J. Brunell
Assistant Executive Director
Scientific Activities

Richard J. Fiorentino
Coordinator
Special Services

CALL
ANNUAL MEETING OF THE HOUSE OF DELEGATES

The 1982 Annual Meeting of the House of Delegates will be held at the Parkview Hilton Hotel, Hartford, commencing at 12:30 P.M. on Wednesday, May 26.

Andrew J. Canzonetti, M.D., President
Joseph S. Sadowski, M.D., Speaker of the House
Louis C. Backhus, M.D., Secretary

INTRODUCTION OF RESOLUTIONS

Article V, Section 12, Par. 3 of the Bylaws of the Society provides:

Resolutions may be introduced by any Active or Life Member or student members or postgraduate physician members of the Society, in compliance with the following provisions:

a. *All resolutions, reports and similar items of business submitted in writing and received at the office of the Executive Director not later than thirty days before the date scheduled for that meeting shall be considered as regular business of the House of Delegates.*

b. *Component county associations or the student members or postgraduate physician members, whose meetings are held later than thirty-five days prior to the date of the House of Delegates shall be allowed five days after the close of such meeting in which to submit resolutions, reports and similar items of business to the Executive Director's office and still have such material considered as regular business. In no event, however, may such resolutions, etc. be considered regular business if they are received later than fifteen days prior to the date of the meeting.*

c. *Reports, recommendations, resolutions or other new business may be presented to the House of Delegates by the Council of The Society at any time and shall be considered as regular business.*

d. *Any business which does not qualify as regular business in accordance with the foregoing provisions may be accepted for consideration by a majority vote of the delegates present and shall be referred at once by the Speaker to a reference committee. When business is introduced under the provision of this paragraph the vote shall be taken without debate, except that the introducer shall be allowed not more than two minutes to explain why it should be considered as regular business.*

Mark Your Calendar

Connecticut State Medical Society
190th Annual Meeting

Annual Meeting of the House of Delegates
Wednesday, May 26, 1982 — 12:30 P.M.
Parkview Hilton Hotel, Hartford

General Scientific Program
Thursday, May 27, 1982
Parkview Hilton Hotel, Hartford

Plan Now to Save the Dates

PHYSICIAN PLACEMENT SERVICE

The Society maintains the Physician Placement Service as a service to the medical profession in Connecticut. Opportunities for physicians to locate in Connecticut will be published as space permits and will be distributed to physicians making inquiries of such opportunities. Information should be sent to 160 St. Ronan St., New Haven, CT 06511 (203-865-6822).

Physicians wishing to establish practice in Connecticut are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.

OPPORTUNITIES FOR PRACTICE

(If no name is listed, contact the Physician Placement Service for more details.)

MULTI-SPECIALTIES

300 Main Street, Bristol, CT. Health Care Group re-organizing. Seeking Internal Medicine Practioner (endocrinology diabetes) Ear, Nose & Throat, Neurologist to set up independent practice in an established health care facility. Facility is group owned and presently includes Radiologists, Pediatricians, Surgeons, Optometrists and a Clinical Laboratory. Contact: Dr. Herbert Glass, 589-2112.

EMERGENCY MEDICINE

EMERGENCY PHYSICIAN. Norwalk Hospital, in Connecticut, a regional community health resource is seeking a physician experienced in emergency care, preferably emergency residency trained. We are an active service including advanced mobile emergency life support personnel. Separate primary care facility, a full range of equipment and specialty physician support. Major affiliation with Yale University. Compensation commensurate with qualifications and experience. Please send curriculum vitae in confidence to: Melvin Orlins, M.D., Chief, Emergency Department, Norwalk Hospital, Norwalk, CT 06856. An Equal Opportunity Employer M/F/H.

FAMILY PRACTICE

Established thriving practice in Family Medicine in Stamford, CT. Colonial building on the main street in a residential section with 900 sq. ft. office space, two bedroom apartment upstairs, paved parking for eight cars. All equipment, records of about 2,000 active patients and supplies included in the sale of the property. For further details write, P.O. Box 4115, Stamford, CT 06907.

Busy solo family practice including building with office and apartments. Center of West Haven. Plan to retire by 10/1/82. Call John Chasnoff, M.D., West Haven, (203) 934-1115.

INSTITUTIONAL MEDICINE

Vacancy for Internist—350 bed JCAH accredited hospital. Acute and chronic patients in all sub-specialties; emphasis on geriatric medicine. C.V. to R. Cavalieri, M.D., CT State Veterans Home and Hospital, 287 West Street, Rocky Hill, CT 06067 or call (203) 529-2571.

OTORHINOLARYNGOLOGIST

Associate wanted. Must be board eligible or board certified. General ENT practice with large pediatric and trauma service. Send C.V. to CSMS, OTO/RP, (to be forwarded).

PEDIATRICS

NEONATOLOGIST. Level II nursery. Half-time in nursery, half Private Pediatric Practice. Hartford area. Contact: Dr. Herbert Werner, 41 Jerome Ave., Bloomfield, CT 06002. (203) 242-8574.

PHYSICIANS WISHING TO LOCATE IN CONNECTICUT

ANESTHESIOLOGY

July '82. Age: 42. Presently in practice. FLEX. AB elig. MD, and Int., King George's Medical College; Res., French & Polyclinic Medical Center, NY and Monmouth Medical Center, NJ. Prefers General Family Practice and/or part-time Anesthesiology. No preference in size of practice. Contact: Virendra Singh, M.D., 46 Main St., Delhi, New York 13753.

FAMILY PRACTICE

July '82. Age: 30. Nat'l bds. MD, SUNY Downstate; Int., Somerset Medical Center, NJ; Res., King's County Hospital, NY. Prefers Partnership with a minimum guaranteed salary for the 1st year or two in a small to medium size community. Contact: Ralph Salvietti, M.D., 153 Gelston Ave., Brooklyn, NY 11209.

July '82. Age: 28. Nat'l bds. AB elig. MD, George Washington University; Int. and Res., Williamsport Hospital. Desires Group, assoc. or institutional type practice in a medium size community. Contact: Jeffrey B. Wetstone, M.D., 10 Valley Heights Dr., Williamsport, PA 17701.

Aug. '82. Age: 26. FLEX. AB elig. MD, McMaster University; Int. and Res., Northridge Hospital Medical Center. Group practice preferred. Write: Leslie-Lynn Pawson, M.D., Family Practice Center, Northridge Hospital Foundation, 18406 Roscoe Blvd., Northridge, CA 91325.

July '82. Age: 29. Presently in residency practice. Nat'l bds. AB elig. MD, University of Pittsburgh; Int. and Res., Shadyside Hospital Prefers group practice. Write: Walter H. Wahl, M.D., 434 S. Fairmount St., Pittsburgh, PA 15232.

INTERNAL MEDICINE

July '82. Age: 30. Nat'l bds. AB cert. MD, Georgetown University; Int., Northshore Hospital, NY; Res., University of California at Davis. Prefers small to medium size group practice. Write: Roger M. Kligler, M.D., 60 Church St., Little Falls, NY 13365.

CARDIOLOGY. July '82. Age: 30. Nat'l bds. AB cert. MD, Int., Res. and Fellowship, Emory University. Solo, group, or assoc. practice preferred. Is interested in a position including both invasive and non-invasive aspects of Cardiology. Write: William E. Story, M.D., 1295 Victor Road, Atlanta, GA 30324.

GASTROENTEROLOGY. July '82. Age: 34. Nat'l bds. AB elig. MD, University of Paris VI, France; Int. and Res., Beth Israel Medical, NY. Prefers group or assoc. type practice. Write: Marc Obadia, M.D., 500 East 77th St., New York, NY 10162.

GASTROENTEROLOGY. July '82. Age: 32. FLEX. AB cert. MD, Nishtar, Multan Pakistan; Int., Res., and Fellowship, Bronx-Lebman Hospital (Albert Einstein College). Solo, group, assoc. or institutional practice in medium to large size community. Mainly interested in Gastroenterology practice with some Internal Medicine practice. Write: Muhammad A. Nyazee, M.D., B-E 1650 Selwyn Ave., Bronx, NY 10457.

Jan. '82. Age: 27. AB elig. MD, University of Rajasthan; Int. and Res., Coney Island Hospital, NY. Group, assoc., institutional or industrial/hospital based type of practice preferred. Contact: Mukesh Mathur, M.D., 853 Ave. Z, Brooklyn, NY 11235.

ONCOLOGY. Aug. '82. Age: 31. Nat'l bds. AB cert. MD, University of Illinois; Int. and Res., E. Hines VA Medical Center, Fellowship, National Cancer Institute, Baltimore, MD. Prefers medical school affiliation and hospital with accredited Internal Medicine residency in medium to large community. Write: CSMS/IM/SMC.

GASTROENTEROLOGY. July '82. Age: 29. Licensed in Connecticut. Nat'l bds. AB cert. MD, Stamford University; Int. and Res., Yale-New Haven Hospital; Fellowship, Brigham and Womens' Hospital, Harvard Medical School. Seeks an associate or group or multispecialty or hospital based practice in Connecticut (especially S.W.). Would like to practice G.I. but willing to do Internal Medicine. Write: Clifford A. Berken, M.D., 135 Pleasant Street, Apt. 407, Brookline, MA 02146.

INTERNAL MEDICINE—Continued

CARDIOLOGY. July '82. Age: 30. Nat'l bds. AB cert. MD, University of Madras; Int. and Res., Misericordia Hospital, NY; Fellowship, Beth Israel Medical Center, NY. Prefers solo, group, asoc. or institutional type practice. Ceonta Contact: V. Srinivasan, M.D., 353 E. 17th St., Apt. 22A, New York, NY 10003.

NEUROLOGY

Negotiable. Age: 36. Presently in practice. FLEX. AB cert. MD, Medical College, Trivandrum, India; Int. Bergen Pines County Hospital, Paramus, NJ; Res., New Jersey College of Medicine. Solo, assoc., and institutional type practice in medium size community. Mainly interested in Hospital-based practice with teaching opportunities. Write: Srinivasan S. Mani, M.D., 2386 Simmental Drive, Madisonville, KY 42431.

OBSTETRICS & GYNECOLOGY

Summer '82. Age: 29. Nat'l bds; AB elig. MD, New York Medical College; Int. and Res., Brookdale Hospital. Prefers solo, group or assoc. practice in medium or large size community. Contact: Lawrence D. Kramer, M.D., 301 E. 22nd St., New York, NY 10010.

July '82. Age: 31. AB elig. MD, University of Bombay; Int., Goa Medical College, Goa, India; Res., Mt. Sinai Hospital, Hartford. Prefers group practice in a small to medium size community. Write: Sandip U Sawardecker, M.D., 100 Prospect Ave., Hartford, CT 06106.

OPHTHALMOLOGY

Nov. '82. Age: 30. Nat'l bds. AB elig. MD, NY Medical College; Int., Nassau Hospital; Res., Hahnemann Medical College. Prefers solo or group practice in a small, medium or large size community. Trained in intraocular lens implantation, oculoplastic surgery, laser therapy and all aspects of medical and surgical ophthalmology. Write: Peter J. Embriano, M.D., Heather Ridge C-44, Mantua, NJ 08051.

ORTHOPEDIC SURGERY

Available on notice. Age: 36. Presently in practice (over five years). Nat'l bds; AB cert. MD, Georgetown University; Int., Lenox Hill Hospital; Res., Georgetown University Hospital. Desires Associate practice in a medium size community. Write: Christopher J. Cassels, M.D., 1390 Calle Pecos, Thousand Oaks, CA 91360.

OTOLARYNGOLOGY

July '82. Age: 29. Nat'l bds. AB elig. MD, Tufts University; Int., Montefiore Hospital; Res., University of Miami. Prefers group or assoc. type practice in a medium to large size community. Write: Richard G. Schiffman, M.D., 8101 Camino Real #c-318, Miami, FL 33143.

PATHOLOGY

July '82. Age: 30. Presently in practice. Nat'l bds. AB cert. MD, University of Wisconsin; Int. and Res., University of Wisconsin Hospitals; Fellowship, Yale-New Haven Hospital. Prefers group practice. Write: Renee B. Warren, M.D., 301 Millpond Village Dr., Hamden, CT 06514.

PEDIATRICS

July '82. Age: 30. AB elig. MD, Guntor Medical College, Guntur, India. Int., Govt. General Hospital, Guntur, India; Res., U.O.A. Hospitals, Edmonton, Canada. No preference in type of practice or size. Write: B.R. Prasad Achanti, M.D., #310:11135-83 Ave., Edmonton, Alberta, Canada T6G2C6.

RADIOLOGY

May '82. Age: 34. Presently in practice. Nat'l bds. AB cert. MD, University of Arkansas Medical School; Int., Beth Israel Medical Center, NY; Res., St. Vincent's Medical, NY; Fellowship, Vanderbilt University Hospital. Prefers group practice in private office or hospital setting but will consider all possibilities. Write: Stephen P. Laufgraben, M.D., 19 Poplar Ave., Wheeling, WVA 26003.

SURGERY

Immediately. Age: 37. AB elig. MD, A.M. College, Aslam, India; Int. and Res., Misericordia Hospital, NY. Small to medium size solo or group practice. Write: Bijoy B. Sarmaroy, M.D., 631 E. 235th St., New York, NY 10466.

VASCULAR SURGERY & GI ENDOSCOPY. Aug. '82. Presently in practice. Age: 31. Nat'l bds. AB cert. MD, Loyola University, IL; Int., St. Francis, Evanston, IL; Res., Loyola University, IL. Prefers assoc., solo, or group type practice in a medium size community. Write: Douglas A. Schipitsch, M.D., Box 262, Cumberland, WI 54829.

COLON & RECTAL. July '82. Age: 36. AB elig. MD, University of Milan, Italy; Int., Dis Hospital Meudritis, Switzerland; Res., Maimonides Medical Center, Brooklyn, NY; Fellowship, Greater Baltimore Medical Center. Prefers solo, group, assoc. or institutional type practice in a large community. Write: Marian Fleischer, M.D., 6603 Bonnie Ridge Drive, Baltimore, MD 21209.

July '82. Age: 42. Licensed in Connecticut. MD, Rangaraya Medical College, Kakinada, Andhra Pradesh; Int., Govt. General Hospital, Kakinada; Res., Memorial University of Newfoundland. At present is completing another year of residency in General Surgery to complete the requirements of by the American Board of Surgery. Prefers solo, group and/or institutional type practice in a medium size community. Write: Sambasiva Rao Allada, M.D., Apt. 212, Amherst Manor Apts., Williamsville, NY 14221.

GENERAL & VASCULAR. July '82. Age 35. Nat'l bds. MD, University of Hawaii; Int., REs. and Fellowship, Baystate Medical Center. Experienced in Trauma and Hyperalimentation. Desires solo, group, assoc. or institutional type practice. Write: Chanel G. Bouchereau, M.D., 410 Elm St., West Springfield, MA 01089.

UROLOGY

July '82. Age: 35. FLEX. AB elig. MD, Techmon Haifa, Israel; Int., Beth Israel Medical Center, NY; Res., NYU Medical Center. Interested in solo, partnership, group practice or multi-specialty group practice in a medium to large size community. Write: Jacob Heyman, M.D., 271 Ave. C. Apt. 5F, New York, NY 10009.

July '82. Age: 32. Presently in practice. FLEX. AB cert. MD, Aleppo University, Aleppo, Syria; Int., St. Vincent Health Center, Erie, PA; Res., Easton Hospital, Easton, PA; Fellowship, St. Vincent-Hamot, Erie, PA. Wishes to practice in a medium size community. Prefers Multispecialty group (fee-for-service) but would consider solo type practice. Write: Samir Bsata, M.D., 4917 Sir Hue Dr., Erie, PA 16506.

Cardiac Arrest During Exercise Training after Myocardial Infarction

CHARLES N. LEACH, JR., M.D., F.A.C.C., MILTON J. SANDS, JR., M.D., F.A.C.C.,
ANTHONY S. LACHMAN, M.B., F.C.P. (S.A.) AND WILLIAM SKINNER, B.S.

ABSTRACT—Aerobic conditioning after myocardial infarction entails a small but well-recognized risk. We describe the circumstances of three cardiac arrests which have occurred in 10 years' cardiac rehabilitation programming. All occurred during jogging in middle-aged men with remote inferior wall myocardial infarctions. All had shown a conditioning effect and had no previous significant arrhythmias. All had abnormal blood pressure responses and two had ECG evidence of ischemia on multiple exercise tests. Post-arrest angiography revealed near-normal ventricular function despite severe three-vessel disease in all, and left main stenosis in two. On the basis of our experience, we recommend coronary angiography for exercisers displaying ST segment depression $\geq$ 2 mm. or abnormal blood pressure responses during stress testing. It is undetermined whether patients with severe but bypassable disease should resume exercising after revascularization surgery. We discourage "graduation" of participants to unsupervised aerobic exercise, and limit target heart rates to 85% of the maximum attained during testing. The routine use of beta blocking agents may also be a useful safeguard. We continue to recommend cautious supervised aerobic conditioning to certain patients with ischemic heart disease.

Introduction

Aerobic training is frequently employed in the rehabilitation of patients following myocardial infarction. Known benefits of group conditioning programs include improved psychologic status, enhanced self-image,[1] reduction of certain coronary risk factors,[2] improved work capacity and increased angina threshold.[3] Improved ventricular function, arrhythmia and blood pressure control, decreased incidence of coronary events, and prolongation of life have not been clearly documented.[4]

Complications of aerobic exercise range from minor musculoskeletal injuries to arrhythmias, hypotension, myocardial infarction and cardiac arrest. Safety during exercise is a constant concern. Safety for longterm exercise participants may be particularly difficult to attain because of inappropriate confidence based on demonstrated physical conditioning and the apparent stability of abnormal stress test results.

We report herewith cardiac arrests during conditioning in three patients 32 months to 15 years following myocardial infarction. We examine clinical and angiographic features which might have allowed prediction of their danger, and suggest means of preventing this complication of exercise.

The NBGH-NBYMCA Cardiac Rehabilitation Program

Inpatient physicial conditioning of coronary patients was begun in New Britain in March, 1971. A YMCA-based continuation of the program was added in October, 1972, and since then 226 participants have exercised at the YMCA for a total of 36,346 hours. Exercise protocols used at the YMCA comprise the

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CHARLES N. LEACH, JR., M.D., F.A.C.C., Director of Cardiology, New Britain General Hospital; Associate Professor of Medicine, University of Connecticut Health Center. MILTON J. SANDS, JR., M.D., F.A.C.C., Associate Director of Cardiology, New Britain General Hospital; Associate Professor of Medicine, University of Connecticut Health Center; Associate Clinical Professor of Medicine, Yale University School of Medicine. ANTHONY S. LACHMAN, M.B., F.C.P. (S.A.), Assistant Professor of Medicine, University of Connecticut Health Center; Assistant Clinical Professor of Medicine and Assistant Clinical Professor of Pediatrics, Yale University School of Medicine. WILLIAM SKINNER, B.S., Physical Director, New Britain/Berlin Y.M.C.A.

Reprint requests to: New Britain General Hospital, 100 Grand Street, New Britain, CT 06050 (Dr. Leach).

third and fourth stages of a progressive conditioning sequence which is described in detail elsewhere.[5] The YMCA physical director and cardiovascular nurses monitor participants closely at each session. Blood pressure and pulse are checked at the beginning of each exercise period, and the pulse after bicycle workouts and jogging. Defibrillator, cardiac drugs, and other equipment are in the exercise area at all times, and evacuation drills are held several times per year in conjunction with the New Britain Police Department.

Most patients are referred following myocardial infarction, and move on to the YMCA portion of the program after at least six months' aerobic conditioning in the New Britain General Hospital outpatient portion. A few participants have angina pectoris without prior infarction, and a few enter following cardiac vascularization surgery. Patients are not accepted for aerobic conditioning if recent myocardial infarction, cardiac decompensation, hazardous arrhythmias, or uncontrolled hypertension are present. Diminished stamina, increased symptoms, and severely abnormal stress test and angiographic results may be indications to reject new applicants or to return participants to less stressful stages of the program.

An exercise stress test is performed before beginning aerobic conditioning, and at three to six month intervals depending on progress and clinical status. Until 1980, tests were performed on the Schwinn ergometer bicycle using a continuous protocol of one-minute stages and a single ECG lead approximating V5. We now use the standard Bruce exercise protocol,[6] and Mason-Likar[7] 7-lead electrocardiographic lead system. Careful attention is directed to heart rhythm, physical findings, and subjective responses. Blood pressure is measured each minute. Systolic blood pressure decreases of more than 10 mm.Hg. during exertion are considered abnormal. Systolic blood pressure normally decreases during the post-exercise recovery phase of the test. A rebound ("overshoot") of >10 mm.Hg. to a higher systolic BP during the post-exercise BP decline is also regarded as abnormal.[8] (We refer to these deviations from normal blood pressure behavior as "anomalies.") After stress testing, an individualized exercise prescription is given the patient, with exercise target heart rates greater than 70% of maximum test rate but within limits judged safe for the individual. Patients taking propranolol are tested four to six hours after the last dose. Because beta blockade reduces maximum test heart rates, target rates are correspondingly reduced, but not lower than 100 beats/min.

Case Reports

A. C.C. was 58 years old at the time of his inferior wall myocardial infarction. Despite severe pain, and syncope several days later, he did not seek medical attention. He was thereafter asymptomatic except for occasional mild angina pectoris. He had been a regular and vigorous exerciser for many years, and continued to exercise alone after his infarct. He took no medications except quinidine sulfate 200 mg. Q6H. Repeated stress tests showed variable ST segment depression of up to 2½ mm. A moderate number of VPC's occurred before exercise and during recovery, and an abnormal blood pressure response was noted on one occasion (Table 2). He had participated in the program for two years five months at the time of his arrest, and his last stress test six months previously continued to show a conditioning response (Table 2). He had reduced his quinidine dose by one half a few days before his arrest. He felt well, had finished jogging and was coming to the nurse for pulse-taking when he abruptly fainted. Ventricular fibrillation was diagnosed, and he was defibrillated at once and hospitalized. Physical examination was unremarkable. The electrocardiogram showed only his old inferior wall myocardial infarct. Serum potassium, CPK and other laboratory studies were normal.

Treadmill exercise study three weeks after his arrest revealed 4-mm. ST segment depression in lead V6; a blood pressure decline from 142/90 to 80/40 at maximum; and a 3-beat salvo of ventricular tachycardia. At this time, the patient was taking Quinidine sulfate 200 mg. Q.I.D. Coronary angiography a few weeks later showed an 80% left main coronary stenosis and 90 to 100% obstruction of the three major coronary trunks. Ejection fraction was 50% despite an inferoposterior scar. He soon thereafter underwent successful cardiac revascularization (Table 3).

B. J.D. was 48 years old at the time of his cardiac arrest in 1975, and was known to have suffered an inferior wall myocardial infarction in 1960. Mild angina pectoris had been present for three years when he entered the Cardiac Rehabilitation Program in April, 1974. Coronary angiography in March 1974 showed a nonsignificant left main lesion and 3-vessel coronary artery disease (Table 3). Inferior wall hypokinesis was noted. Four stress tests preceded his cardiac arrest, the last by 18 days. All were positive by ECG with 2 to 3 mm. ST segment depression. An anomalous blood pressure response occurred during three tests. The patient clearly demonstrated a conditioning effect (Table 2), his stamina increased and angina occurred only rarely. There had been no clinical change on the day of his arrest, when he finished jogging, felt unwell and collapsed. He was unconscious, cyanotic, and no pulses were palpable. Heart rhythm was not documented, but he responded at once to two 400-joule DC countershocks. He recovered during a brief hospitalization without sequellae. The electrocardiogram showed only his previous inferolateral myocardial infarction. Obesity and a grade $\overline{ii}$/6 apical systolic murmur were noted on physical examination. His CPK reached a peak of 1545 i.u.; CKMB was not yet in use. Serum electrolytes and other laboratory studies were normal except that (though not on a diuretic) his potassium was 3.4 meg./1.

He was begun on Quinidine, and re-entered the program one month after his arrest. A second coronary study in April, 1981 showed progression of the left main coronary lesion to 70% and some progression of his other lesions. Aortocoronary bypass was done in May 1981 and he continues to participate in the program.

C. E.D. was 37 years old at the time of his inferior wall M.I., and had participated in the program for 6½ years at the time of his cardiac arrest. Thirteen exercise studies were negative by ECG but the last five showed an overshoot of blood pressure following exercise. A conditioning response was documented (Table 2). The last study was done four months before his arrest, and showed an increased blood pressure overshoot but no other changes. He had recently recovered from a respiratory infection, and was gradually increasing his jogging distance. He had recently resumed smoking. He felt chest discomfort toward the end of his usual jogging, rested, resumed jogging, then sat down and fainted. He was found by the nurse to be in ventricular tachycardia which degenerated to ventricular fibrillation. He was immediately defibrillated with two shocks, and briefly hospitalized. Physical examination was normal except for mild obesity. Electrolytes were normal. CPK peaked at 1285 i.u., but CKMB was repeatedly normal. Electrocardiograms showed an old inferior wall M.I. and inferior wall T wave inversions which resolved. Coronary arteriography documented 70 to 95% obstruction of each major coronary trunk, and a 60% ejection fraction. Treadmill study showed 2½ mm. ST segment depression and an abnormal blood pressure response. He has subsequently undergone revascularization, is taking quinidine, and has resumed cardiac rehabilitation.

Table 1

PATIENTS WITH CARDIAC ARREST IN CARDIAC REHABILITATION PROGRAM

	C.C.	J.D.	E.D.
Age	60	48	44
Sex	M	M	M
MI Location	Inferior	Inferior	Inferior
MI Date	4/1973	1960	7/1973
Date of Arrest	12/1975	10/1975	4/1980
Time Since MI	2y 8m	15y	6y 9m
Time in Program	2y 5m	1y 6m	6y 6m
Medication	Quinidine	Nitroglycerine	None

Table 2

BICYCLE ERGOMETER STRESS TESTS

	C.C.	J.D.	E.D.
Tests Before Arrest	4	4	13
Interval $\overline{p}$ Last Test (Mos.)	6	½	4
Tests Showing:			
BP Anomaly	1	3	5
Ischemic ECG	2	4	0
VEA	2	1	3
Angina	0	1	0
Maximum ST Depression (mm)	2½	3	0
Initial Max. Test Level (KPM/Min)	600	600	900
Last Max. Test Level (KPM/Min)	750	750	1050
Heart Rate/DP at Max. Level, 1st Test	131/22794	135/19170	139/22796
Heart Rate/DP at Same Level, Last Test	120/19680	121/22022	128/19712
% Change HR	−8	−10	−8
DP	−14	+15	−14

VEA = Ventricular Ectopic Activity. KPM = Kilopond Meters
DP = Double Product (Systolic BP × Heart Rate)

Table 3

RESULTS OF CORONARY ANGIOGRAPHY

	C.C.	J.D.		E.D.	
Date	2/1976	3/13/74	4/8/81	6/4/80	4/29/81
LVEF	50%	–	50%	60%	50%
LV Scar	Inf-Post.	Inf	Inf	Inf-Post.	Inf-Post.
Per Cent Stenosis:					
Left Main	80	Non-Signif.	70	0	0
LAD	90	75	95	80	90
Diagonal	90	80	70	70	90
Circumflex	0	0	0	70	Subtotal
OM	90	100	100	0	0
Right	Subtotal	100	100	95	Subtotal
Collateral Vessels	4+	4+	4+	4+	4+

LVEF = Left Ventricular Ejection Fraction. LAD = Left Anterior Descending.
OM = Obtuse Marginal.

Other Clinical and Laboratory Characteristics of the Patients

All three men were in good general health, and had shown a conditioning response while in the program. All were physically active and led vigorous lives. None had noted recent dizziness or palpitations, and all had mild angina pectoris. In each case, the myocardial infarction was inferior wall in location, and remote in time. None of the patients took digitalis, a diuretic, or propranolol. One took nitroglycerine before exercise, and one took quinidine.

Syncope had occurred in two patients at the time of infarction. The only one to have ambulatory ECG monitoring showed a brief period of bigeminy and 10 to 20 VPC's per hour three years before his arrest. Observation during exercise revealed no ventricular ectopic activity (VEA) in patient E.D. and occasional in J.D. C.C. had small numbers of single VPC's two years before, and in the month of his arrest. VPC's were present in small numbers on stress testing in two patients. There were no atrial arrhythmias.

We sought predictors of sudden death by comparing each subject's multiple stress tests. Two had ECG evidence of ischemia before arrest. The third developed a positive ECG thereafter, a change which may have preceded the event or resulted from it. Anomalous blood pressure responses to exercise occurred in each case: once in four tests (C.C.), thrice in four tests (J.D.) and five times in 13 (E.D.). E.D. developed the blood pressure anomaly only in the last five studies preceding his arrest, with increased BP overshoot. J.D. increased his peak BP from 142/84 to 182/80 and his double product from 19170 to 25298 gradually over four tests (Table 2).

Conditioning was documented in each patient (Table 2). All showed an increase in maximum tolerated ergometer resistance. Heart rate at the initial maximal ergometer setting decreased by 8 to 10%. As confidence increased with patient's apparent stability, target heart rates for exercise were gradually raised to approach the maximum stress test rates. Exercise at prescribed levels appeared well-tolerated, and no patient showed an increased symptomatic response to exertion prior to his arrest.

Ventriculography showed a near-normal ejection fraction in each case, despite moderate to large inferior or inferoposterior scars. Paradoxical wall motion and saccular aneurysm were not present. Critical left main coronary lesions were found in two patients, and three-vessel disease in all. Collateral blood supply was well-developed in each, but in each was threatened by disease in the vessel of origin (Table 3).

Comment

Exercise training of cardiac patients can be done safely if suitable patients participate, programs are conservatively designed, and emergency care and equipment are at hand. The rate of nonfatal cardiac arrest for cardiacs in aerobic conditioning programs was found by Mead[9] to be one per 6000 and by Haskell[10] to be one per 34,673 exercise hours. The frequency appears to decrease if continuous ECG monitoring is employed and participants are closely supervised.[10] Others have noted an increased frequency of cardiac arrest in participants who exceed 85% of their maximum tested heart rate during training sessions.[9] Many of our participants have exercised safely at or near their maximum tested heart rates. Because of Mead's report and our own experience, however, we have now reduced all target rates to less than 85% of maximum. This rule is waived only for those taking beta blocking drugs, who exercise at target rates of at least 100/min. None of our many patients on propranolol has suffered a cardiac event.

Ventricular ectopic activity (VEA) during stress testing is suggested by Mead as a predictor for sudden death in exercising cardiac patients. VEA has been so commonly present in our participants, and was so low-grade in our three cardiac arrest patients, that we feel it to be an imprecise indicator. We insist on effective antiarrhythmic therapy for participants showing numerous or malignant VPC's and have not excluded them from the program if controlled. We recommend invasive electrophysiologic testing for patients who have suffered out of hospital cardiac arrest during conditioning. Such studies identify drug regimens likely to prevent recurrences.[11]

Schulze[12] has noted that VEA is a clue to abnormal ventricular function during exercise, and suggests that the two may be additive as risk factors for sudden death. For this reason, Jelinek[13] suggests that beta blocking drugs be given patients with VEA who wish to undergo aerobic conditioning. Berger et al[15] have shown that beta blockade reduces exercise-induced LV dysfunction, and based on this finding we suggest that those participants with evidence of stress-induced LV dysfunction should receive beta blocking drugs. A recent report[14] suggests that all patients should have beta blockade after myocardial infarction, and we expect cardiac rehabilitation patients will soon be included in this growing trend.

We have worked with many patients with severe resting LV dysfunction and large aneurysms, usually using bicycle ergometer conditioning. We[16] and others[17] have shown that such patients can be conditioned. We have experienced no coronary arrests in this group. Our cardiac arrest patients used jogging for conditioning. They showed evidence of LV dysfunction during exertion but not significantly at rest. We believe that such patients with anomalous exercise blood pressure responses are particularly at risk of sudden death, and that this risk is particularly great during jogging. We therefore limit anyone showing a clearcut blood pressure anomaly to ergometer exercise. This form of training can be more strictly controlled and observed, limited to lower exertional levels, and may be less prone to induce exercise-related hypotension since the patient is seated during and after exertion.

We believe that a vicious cycle develops, whereby ischemic LV dysfunction lowers blood pressure and therefore myocardial perfusion at a time of high oxygen demand. Post-exercise blood pressure overshoot may then increase oxygen demand in an already unstable myocardium. It is noteworthy that among Mead's patients exertional BP declines were also a predictor of cardiac arrest in a rehabilitation program.[9]

We continue to insist on an inter-test interval of three to six months, though this interval does not derive from precise cost-benefit analysis. We now use exclusively the Bruce treadmill protocol[6] and Mason-Likar lead system,[7] to attain greater stress test precision.

Our results indicate that patients with three-vessel or left main disease are at particular risk during aerobic exercise. Many (though not all)[18] such patients can be identified by stress testing. Stress test results suggesting significant left main stenosis include ST segment depresssion >2 mm., prolonged duration of ST depression, early pain and ECG changes during exercise and blunted rate response to exercise.[19] In cardiac rehabilitation participants undergoing aerobic exercise, we recommend coronary study for this group and for those showing blood pressure anomalies. Those found to have hemodynamically significant left main disease require revascularization. Significant three-vessel disease is a relative contraindication to aerobic exercise and bypass may be recommended. Mead notes left anterior descending lesions in nine of 11 of his cardiac arrest patients, and we are particularly cautious during exercise in this group. The value and risk of exercise training for patients after revascularization remains undetermined.

Coronary artery disease progresses at variable rates peculiar to individual patients. We have become cautious in the application of old coronary angiographic data. We suggest eventual re-angiography of patients such as J.D. who are found to have nonsignificant left main disease. Native coronary or graft obstruction may occur after revascularization, and the value and risk of exercise training for this group remain undetermined.

We do not prescribe unsupervised aerobic exercise for any patient following myocardial infarction, even though apparently stable and conditioned for many years. We do not "graduate" patients from our program to continue aerobic exercise independently, but if they insist on exercising unsupervised, we encourage periodic stress testing.

We believe that personal observation of participants is very valuable, particularly for those such as J.D. and C.C. who did not report symptoms but continued to exercise. Exercise leaders can identify patients in difficulty, and help compulsive exercisers moderate their behavior. Contrary to the experience of Mead,[9] each of our arrests occurred late in the jogging session or during cool-down, and supervisors are particularly vigilant at this time.

We remain convinced of the value of cardiac rehabilitation by means of a supervised group exercise program. Participants' safety is of major concern. It depends on cautious exercise prescription and readiness to handle emergencies. High-risk patients must be identified—by invasive means if necessary—and excluded from intensive aerobic exercise or brought to appropriate treatment.

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Endobronchial Involvement in Metastatic Breast Carcinoma

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ABSTRACT—Four cases of breast carcinoma metastatic to the bronchus are reported. The cases illustrate the clinical and pathologic spectrum of bronchial metastasis. Literature suggests that breast is the most common primary site of malignancy with secondary bronchial involvement. The interval between diagnosis of breast carcinoma and documentation of bronchial spread may be as long as twelve years; bronchial involvement may be one feature of widely disseminated tumor or the first site of recurrence. Bronchial involvement from breast carcinoma is unlikely to be confused with bronchogenic carcinoma since the primary tumor is usually not occult. In patients with a history of breast carcinoma and with respiratory symptoms, especially persistent cough, the diagnosis of bronchial metastasis should be suspected early and confirmed with fiberoptic bronchoscopy.

Prolonged life expectancy with certain malignancies increases the probability of diagnosis of a second primary malignancy at some later time. Patients with a history of active, recent, or temporally remote non-pulmonary malignancy may undergo fiberoptic bronchoscopy for evaluation of suspected bronchial tumor. If bronchial malignancy is found, the question often arises: "Is the bronchial malignancy a primary bronchogenic carcinoma or is it secondary bronchial involvement by the known non-pulmonary primary tumor?" Histologic evaluation may be helpful to differentiate these, but de-differentiation or other changes in histologic features makes it difficult to draw definitive conclusions; in some cases, particularly with undifferentiated carcinoma or adenocarcinoma, it may be difficult or even impossible to distinguish between bronchogenic and secondary bronchial carcinoma.

The common presentations of bronchogenic carcinoma are well known. The features of bronchial metastasis from a primary tumor elsewhere are less widely appreciated. At the New Britain General Hospital we saw four cases of bronchial involvement from primary carcinoma of the breast during the last six months of 1980. This cluster of cases led us to review the clinical and pathologic spectrum of bronchial metastasis from breast carcinoma.

Case Report 1

A 51 year old woman was generally well until March 1968 when she underwent a right modified radical mastectomy for adenocarcinoma of the breast. Subsequently she had recurrence of tumor, particularly marked by hepatomegaly and a grossly abnormal liver scan with abnormal hepatic enzymes. Following mastectomy she had been treated with Cytoxan, Adriamycin and 5-fluorouracil; when progression was noted, she was treated with Adriamycin, vincristine, and prednisone and later with Mitomycin C.

In September 1979 she was admitted to the New Britain General Hospital with right sided pleurisy and a right lower lobe infiltrate. Ventilation-perfusion lung scan showed defects in the right and left lower lobes and was felt to be consistent with high probability of pulmonary embolus. Because of this she was treated with Coumadin from September 1979 to December 1979 and had no recurrence of pleuritic chest pain. There was no history of other lung disease and no history of smoking or exposure to known occupational lung hazards.

In December 1979 she developed a cough, myalgias, and fever. All symptoms resolved except her cough which worsened over the next several months. Her cough produced moderate amounts of thin, whitish sputum and did not respond to antitussives. She was relatively inactive, doing only light housework, but felt that she had minimal shortness of breath, mostly related to cough. In addition she complained of back pain between her scapulae which she felt might be related to cough efforts.

The patient was referred in August 1980 for evaluation of persistent cough which had disrupted her sleep and resulted in excessive daytime somnolence. Examination revealed small, hard

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lymph nodes in the left lower anterior cervical chain and the right supraclavicular area. Chest expanded symmetrically and lungs were normal to percussion. Breath sounds were generally decreased on the right as compared to the left. There were no rhonchi, rales, or wheezes. Liver was enlarged.

Pulmonary function tests revealed a mild restrictive ventilatory defect with a forced vital capacity of 72% predicted. Diffusing capacity was 82% of predicted. Alveolar-arterial oxygen gradient was increased with arterial blood gas: pH 7.43, PCO_2 37, PO_2 71. Chest xray showed prominent central markings, particularly a loss of clarity on the right lower lobe pulmonary artery in the area of the right heart border. In addition, there was slight blunting of the right costophrenic angle which was not present on previous xrays (Figures 1a, 1b).

Fiberoptic bronchoscopy revealed normal bronchial distribution with no discrete endobronchial masses. However, there was patchy erythema and induration producing a mottled, infiltrated appearance of the mucosa in both mainstem bronchi. Washings, brushings, and forceps biopsy were all positive for anaplastic carcinoma, confirming the suspicion of bronchial carcinomatosis.

The patient continued to receive chemotherapy with vinblastine infusion, but her tumor progressed steadily producing anorexia, weight loss, and pleural effusions. She expired in January 1981, but no postmortem examination was performed.

Case Report 2

A 59 year old woman who had undergone a left radical mastectomy in 1968 for an infiltrating ductal carcinoma. Two of 32 axillary lymph nodes had been positive for tumor cells. Following mastectomy she was treated with radiation to the left parasternal, left supraclavicular, and left infraclavicular areas. She did well thereafter and felt she was in excellent health until 12 years later, in July 1980, when she developed hoarseness and the perception of increased mucus in her throat.

Physical examination revealed hoarseness, a partial left Horner's syndrome, reduced chest excursion, dullness to percussion, and decreased breath sounds in the left lower half posteriorly. Chest xray showed a massive loculated left pleural effusion and a 1.5 cm left upper lung nodule with left upper mediastinal prominence (Figure 2). Laboratory data were notable for a platelet count of 78,000.

Megakaryocytes were abundant in the bone marrow and antiplatelet IgG levels were increased, consistent with an autoimmune thrombocytopenia possibly related to her malignancy. At bronchoscopy, the left vocal cord was paralyzed and an exophytic endobronchial tumor was seen in the left lower lobe bronchus with total obstruction of the anteromedial segmental bronchus. Biopsy revealed adenocarcinoma, morphologically similar to that found at mastectomy in February 1968. Evaluation for metastases to other organs was negative.

She has remained relatively well, complaining only of persistent hoarseness, on tamoxifen and a minimal dose of prednisone for her thrombocytopenia.

Case Report 3

This 61 year old woman had a left modified radical mastectomy in 1973 for an infiltrating ductal carcinoma. Three of ten axillary nodes were positive for malignancy. She remained well until 1979 when she began to note a nonproductive cough and dyspnea with the exertion of climbing stairs. She was able to continue her work as a machinist without difficulty. A medical evaluation of her cough revealed no obvious source and the cough persisted for one year. Chest xray in June 1980 was normal, but she was admitted to New Britain General Hospital in November 1980 complaining of right pleuritic chest pain. Chest xray at that time showed right lower lobe collapse (Figure 3).

Bronchoscopy showed marked thickening of lobar and segmental carinas on the right, with narrowing of bronchi, indicative of extensive infiltration along the primary and secondary bronchi. Biopsy from the right lower lobe bronchus revealed adenocarcinoma, consistent with metastatic breast carcinoma.

Pulmonary function tests showed a mild restrictive defect (FVC = 77%). Bone scan was abnormal in cervical spine, left humerus, and right femur, suggesting metastatic disease to bone. Liver scan was non-specifically abnormal and liver function tests were normal. She has been treated with Cytoxan, methotrexate, 5-fluorouracil, prednisone, and tamoxifen. Despite persistence of the right lower lobe collapse on chest xray, her cough has been markedly improved and she has less dyspnea.

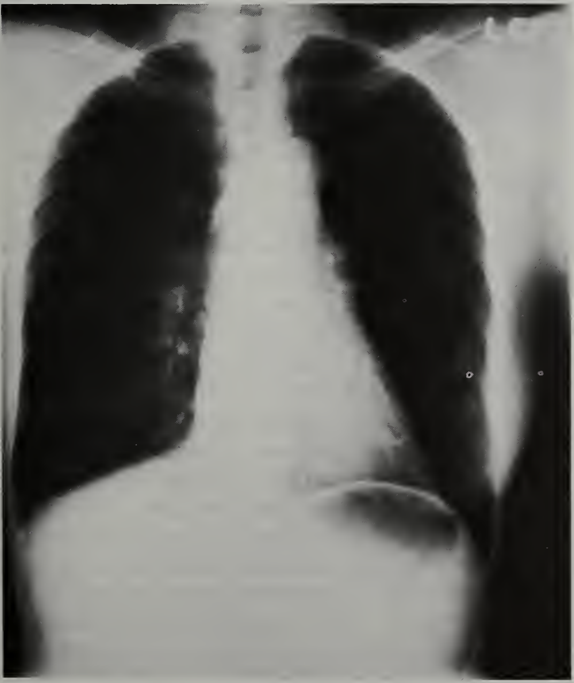

Figure 1(a)
Case Report 1—Negative chest xray in March 1980 when the patient had complained of cough persistent for four months.

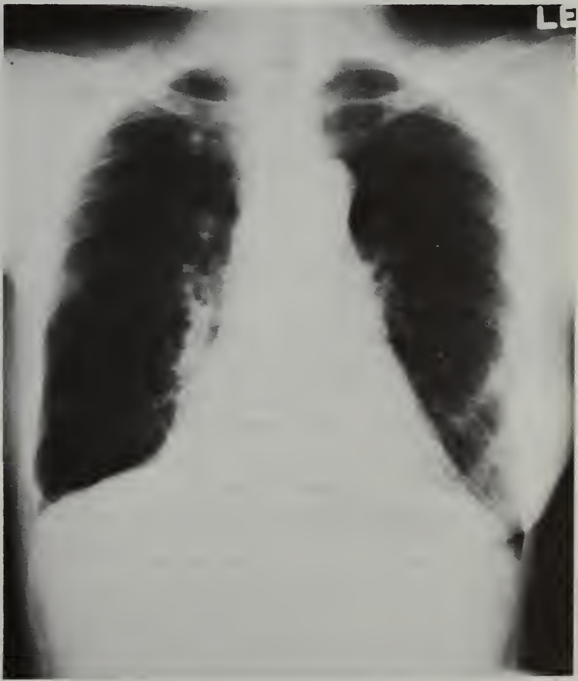

Figure 1(b)
Case Report 1—Chest xray in August 1980 when the diagnosis of bronchial carcinomatosis was made.

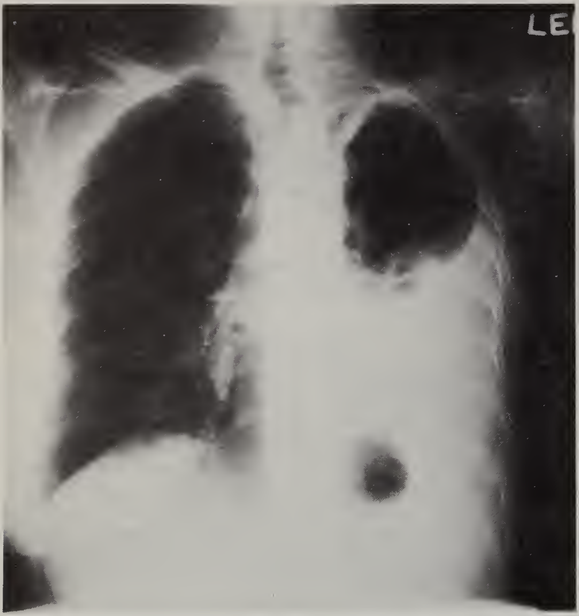

Figure 2
Case Report 2—Right and left lateral decubitus chest xrays showed no change in the pleural density configuration.

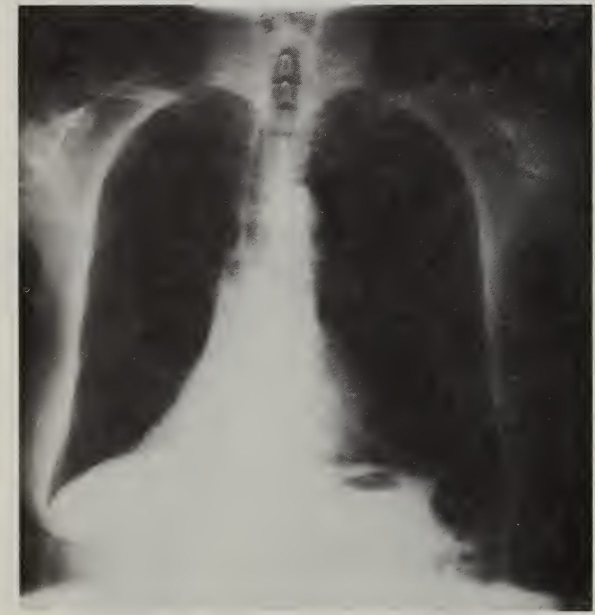

Figure 3
Case Report 3—Chest xray in November 1980 showing right lower lobe collapse.

Case Report 4

A 59 year old woman underwent a left modified radical mastectomy for anaplastic carcinoma of the breast in June 1968. One of eight axillary nodes was positive for carcinoma. She received postoperative axillary nodal recurrence. Subsequently she was treated with chemotherapeutic agents, including Cytoxan and 5-fluorouracil, but she developed cutaneous tumor nodules. Multiple drug chemotherapy continued from 1977 to August 1979 at which time Adriamycin was used because she developed progressive abnormalities on her bone scan. However, bony metastases progressed and in May 1980 she was begun on tamoxifen with some evidence for an objective response. In November 1980 she complained of nonproductive cough, left pleuritic chest pain, and increasing shortness of breath with exertion. A left pleural effusion found to be malignant was drained by chest tube and obliteration of the pleural space was attempted with intrapleural tetracycline. However, shortly thereafter, in December 1980 she was admitted with increasing lung infiltrates (Figure 4) and a severe restrictive ventilatory defect (FVC = 40% predicted). Fiberoptic bronchoscopy showed mucosal changes consistent with diffuse tracheobronchitis. No tumor was seen. Bronchial washings and brushings were negative for malignancy and no specific infection was documented by cultures or serologic titers. She developed progressive respiratory failure and expired.

Post mortem examination of the lungs revealed a bilateral organizing pneumonia and carcinoma metastatic to the lungs. In addition, metastatic carcinoma was seen to be infiltrating bronchial walls and mucosa.

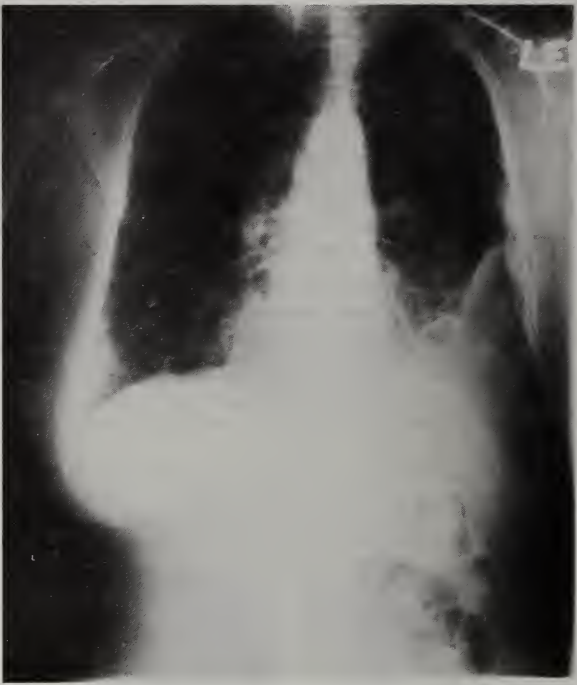

Figure 4
Case Report 4—Chest xray showing pleuroparenchymal metastatic disease.

Discussion

The lung is frequently a site of metastasis from primary malignancies of non-pulmonary origin, with an overall prevalence in patients dying with malignancy of about 30%. In 1952, Willis[1] examined pulmonary metastasis at death in patients with malignancies and found varying prevalences (Table 1).

Carcinoma of the breast is the most common malignancy in women[2] and the leading cause of death from cancer in women in the United States.[3] The prevalence of lung metastases at death is lower with breast carcinoma than with some other less common tumors, but one can easily conclude from these data that breast carcinoma is the most common source of lung metastases in women. Based on incidence, mortality rate, and prevalence of lung metastasis, only carcinoma of the colon might be expected to rival breast carcinoma in frequency of lung metastasis in the overall population.

In 1943 King and Castleman[4] reported a series of

Table 1

Renal cell carcinoma	75%
Osteogenic sarcoma	75%
Chorioepithelioma	75%
Thyroid	65%
Melanoma	60%
Breast	55%
GI (esophagus, stomach, bowel)	55%
Prostate	40%
Oropharyngeal	30%
Liver	20%
Pancreas	20%
Uterus	15%
Ovary	10%

109 necropsies where lung metastases were found; twenty (18%) had infiltration of bronchial walls or mucosa. They excluded esophageal carcinoma because it generally invaded the airways directly and lymphoma because of potential extension from mediastinal masses and the possibility of multicentric origin. Furthermore, they did not include the cases in which airways were extrinsically compressed by tumor producing bronchostenosis but only those with actual bronchial infiltration. The distribution of primary tumor sites for these 20 malignancies with bronchial involvement was *breast* (5), fibrosarcoma (3), and cecum, rectum, thyroid, mouth, prostate, cervix, osteogenic sarcoma, chondrosarcoma, melanoma (one each).

Bronchial involvement varied greatly from major bronchi to bronchioles, and from lobar atelectasis with hemoptysis mimicking bronchogenic carcinoma to asymptomatic lesions. Hemoptysis occurred less frequently (20%) than in a similar series of primary lung carcinomas (51%); in 40% of cases there had been no related pulmonary symptoms.

These data, along with the high frequency of lung metastases from breast carcinoma, suggest that breast carcinoma may involve the bronchus more than any other metastatic malignancy.

Higginson[5] studied nine cases of lung metastases which had involvement of bronchus of segmental or greater caliber; colorectal carcinoma was the most common primary site (4/9), and there were none from breast.

Greenberg[6] discussed 20 cases diagnosed as primary bronchogenic carcinoma until necropsy when they were found to be likely metastases from other primary sites; in this series pancreas was the most frequent primary source (4/20) and none were from breast. Similarly, in 1963 Trinidad[7] reported ten cases of erroneously diagnosed primary bronchogenic carcinoma with autopsy findings confirming another primary site; again in this series pancreas (4/10) was the most common primary site, followed by kidney and adrenal; and none were from breast.

One might conclude from these series that, despite the statistical frequency of breast carcinoma metastatic to lung, major bronchi are not often involved. An alternative explanation is that, in cases where it does occur, it is obvious that the breast is the origin, since the primary breast tumor is more likely to have been recognized than a primary tumor in pancreas, kidney, or adrenal. Thus, a major airway bronchial metastasis from breast appears to be far less likely to masquerade as a bronchogenic carcinoma.

Braman and Whitcomb in 1975 reviewed a series of necropsies in which the incidence of metastatic involvement of a major airway (i.e., macroscopic involvement) was about 2%, noting kidney and colorectum to be most common.[8] In their review of primary sites for endobronchial metastases, they did not include King and Castleman's cases of breast carcinoma since they were either microscopic or had been shown to be the result of direct invasion from mediastinal nodal involvement.

Despite the absence of breast carcinoma in these several reviews of primary sites, there remained some evidence that carcinoma of the breast had a significant incidence of endobronchial metastasis. Citroni and diGuglielmo in 1956 collected 54 cases of endobronchial metastasis and found breast to be the most frequent primary site.[9] And in a CPC in the *New England Journal of Medicine* in 1960,[10] a patient with cough, wheezing, and a lateral segment of right middle lobe atelectasis was found to have submucosal metastatic breast carcinoma on bronchial biopsy, ten years after mastectomy. The discusser, Dr. Thomas Gephart, noted that a "pertinent feature of carcinoma of the breast is its tendency in some cases to metastasize to the bronchi or bronchioles" and that "I believe that metastasis to a bronchus occurs with carcinoma of the breast more commonly than with carcinoma of any other site."

The exclusion of breast carcinoma cases from these several studies for various reasons made it appear that bronchial involvement from breast carcinoma was unusual, and the literature on the subject was sparse. In 1978 DeBeer reported the "first case" of breast carcinoma metastasis to the mucosa of a major bronchus[11] but clearly bronchial involvement had been known.

Some of the confusion about bronchial metastases is semantic and arises from the various routes of spread of the primary malignancy to the bronchus. Potential routes, according to Fitzgerald[12] include:

1. Parenchymal metastasis with secondary bronchial invasion.
2. Mediastinal metastasis with direct bronchial extension.
3. Direct lymphatic spread into bronchus.
4. Transbronchial aspiration of tumor cells.
5. Direct, blood-borne metastasis to bronchus.

Necropsy appearance may suggest one route over another, but it may be difficult and even impossible to differentiate these forms of bronchial involvement.

Several authors have used "bronchial involvement" or "bronchial invasion" to circumvent the question of whether direct bronchial metastasis has occured.

The availability of fiberoptic bronchoscopy has facilitated antemortem evaluation for bronchial tumor invasion and has led to an increasing awareness of endobronchial metastasis from breast carcinoma, although the technique does not allow for ready discrimination among the several potential routes of spread.

Recent reviews of endobronchial metastasis based on bronchoscopic evaluation clearly suggest that breast carcinoma is the most frequent primary site. Fitzgerald (1977) reviewed bronchial metastases to major airways and found that breast was the most frequent primary site (6/17 cases).[12] In one patient, symptoms related to endobronchial metastasis appeared 12 years after the primary diagnosis. Tenholder (1978) reviewed cases of breast carcinoma who had had bronchoscopy and found that seven of nine had endobronchial lesions with histopathology consistent with the primary breast tumor.[13]

Most recently Albertini and Ekberg (1980) reviewed 1200 bronchoscopies and found ten cases of endobronchial breast metastases.[14] The bronchial appearance was generally of mucosal edema and infiltration; only one patient had an exophytic tumor. Only two of ten had malignant cells in sputum suggesting that the tumor was infiltrating submucosally. The most common related symptom was cough (7/10), although dyspnea (3/10) and hemoptysis (3/10) were also seen. Time from diagnosis of primary tumor to documentation of endobronchial metastasis ranged from 9-61 months with a mean of 32 months.

Although metastasis to the trachea is rare, endotracheal metastasis has been reported with breast carcinoma,[15] as well as colonic and ovarian malignancy.

In conclusion, our recent experience, with the aggregate of literature on metastatic involvement of the lung and bronchus, suggests that breast carcinoma is the most frequent non-pulmonary primary tumor with bronchial involvement.

Furthermore, our cases effectively illustrate the clinical and pathological spectrum of bronchial involvement. Bronchial involvement is most likely to produce debilitating cough, sputum, or dyspnea. It may be associated with obvious pleuroparenchymal disease, but cough may be present with a normal chest xray if involvement is limited to the bronchus (Cases 1 and 3). Hemoptysis is a less common feature than with bronchogenic carcinoma.

The time between initial breast tumor diagnosis and diagnosis of endobronchial metastasis ranged from 3½ to 12 years. Three of our four cases were diagnosed antemortem. In two, cough was present for several months prior to diagnosis of bronchial involvement and the diagnosis was not suspected during this period. Although bronchial involvement may be merely one feature of widely disseminated tumor, it may also be the first evidence of tumor recurrence after a long tumor-free interval (Case 3).

The gross bronchial appearance may range from exophytic tumor mass to diffuse bronchial induration, the latter more common in published series; mucosal appearance at bronchoscopy may also be normal if involvement is limited to smaller order bronchi (Case 4).

It is not apparent that bronchial involvement itself in these cases has a profound adverse effect on prognosis. In Cases 2 and 3, the patients have been doing well, and there are no indications that bronchial metastasis itself is a harbinger of rapid tumor progression.

We conclude that persistent cough, hemoptysis, or atelectasis is an indication for fiberoptic bronchoscopy in patients with a history of breast carcinoma, specifically to evaluate for endobronchial breast metastasis and regardless of the interval since initial diagnosis. Increased awareness of breast carcinoma metastatic to the bronchus should reduce the interval between the onset of symptoms and diagnosis of bronchial involvement. It should also diminish the already low probability of incorrectly suspecting a primary bronchogenic carcinoma in these cases. Initiation, reinstitution, or alteration of antineoplastic therapy (irradiation, chemotherapy) may result from the discovery of endobronchial metastases.

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Achalasia Following Esophageal Surgery

EDWARD P. TOFFOLON, M.D. AND THOMAS J. DEVERS, M.D.

ABSTRACT—Achalasia has been found in association with a variety of carcinomas as well as Chagas disease. This represents the first report of three cases of achalasia following esophageal surgery. Esophageal motility is suggested as a preoperative screening procedure to avoid this complication.

Achalasia is a motor disorder of the esophagus clinically manifested by dysphagia to solids and liquids, chest pain and regurgitation.[1] Manometric measurements reveal no peristalsis of the body of the esophagus and an elevated lower esophageal sphincter (LES) pressure which does not relax normally after a swallow.[2] Characteristic barium studies show aperistalsis, esophageal dilatation and a smoothly tapered distal esophagus.[3] Achalasia most often is a primary motor disorder of the esophagus but rarely it may occur secondary to infection with Trypanosome Cruzi (Chagas disease), or secondary to carcinoma (usually of proximal stomach, pancreas or lungs).[4]

We would like to report three cases of achalasia which became clinically manifest only after esophageal surgery. This may be another cause of secondary achalasia.

Case Report 1

A 75-year-old white female presented with symptoms of liquid and solid food dysphagia, nocturnal regurgitation and aspiration. The patient had a Belsey repair of sliding hiatus hernia in 1962. Preoperative workup included barium swallow. Postoperatively she began to have mild symptoms of liquid dysphagia. Over the subsequent 15 years her symptoms have progressively worsened. There was no weight loss. Barium swallow revealed a dilated, sigmoid-shaped aperistaltic body of esophagus and a tapered distal esophagus. Esophageal motility study revealed no peristalsis of body. The LES pressure could not be measured because of inability to pass the catheter through the sphincter. Endoscopy revealed residual food in the esophagus but normal mucosa and the scope was easily pushed through the LES into the stomach. The patient was treated with pneumatic dilatation and has had no further symptoms of dysphagia or nocturnal regurgitation for the past five years.

Case Report 2

A 72-year-old white female who presented with symptoms of intermittent liquid and solid food dysphagia and chest pain. The patient had a large paraesophageal hernia repaired in 1975. The stomach was sutured to the abdomen and the hiatus was tightened. No fundoplication was performed. Shortly after surgery the patient began having dysphagia to solids and liquids, nocturnal regurgitation and aspiration of food which would wake her from sleep. A barium swallow revealed dilated and aperistaltic body of esophagus and a tapered distal esophagus. Endoscopy revealed normal mucosa and the scope was passed easily through the LES. Esophageal motility study revealed no peristalsis of the body, a normal LES pressure but abnormally slow relaxation after swallow. Pneumatic dilatation was performed and the patient has not had dysphagia or regurgitation for six months.

Case Report 3

This 61-year-old woman had a transthoracic Belsey Mark IV repair of a paraesophageal hernia in 1972. She had a long history of heartburn which improved following surgery. She gradually began to have dysphagia for solids and liquids and also complained of nocturnal regurgitation of food eaten hours before. Sequential barium studies revealed dilatation of the esophagus and narrowed gastro-esophageal junction. Motility studies revealed aperistalsis, an LES pressure of 70mm/Hg and partial relaxation. Endoscopy was consistent with achalasia. Pneumatic dilatation was performed and the dysphagia and regurgitation resolved.

Discussion

These three cases of achalasia became clinically manifest only after esophageal surgery. It is possible that the surgery was the cause of the esophageal motor disorder. The type of esophageal surgery differed in that two cases had Belsey repairs and one had no fundoplication. After antireflux surgery a transient rise in LES pressure of about 10 mm/HG can be expected. Long term follow up has shown that the pressure tends to return to preoperative levels after about five years.[5] The patients in this study had progression of symptoms during the time when the effect of antireflux surgery would be least. Dysphagia is a common symptom in patients with severe esophagitis. It is very unusual for this symptom to get worse following antireflux surgery and, in fact, most patients have improvement in their dysphagia.

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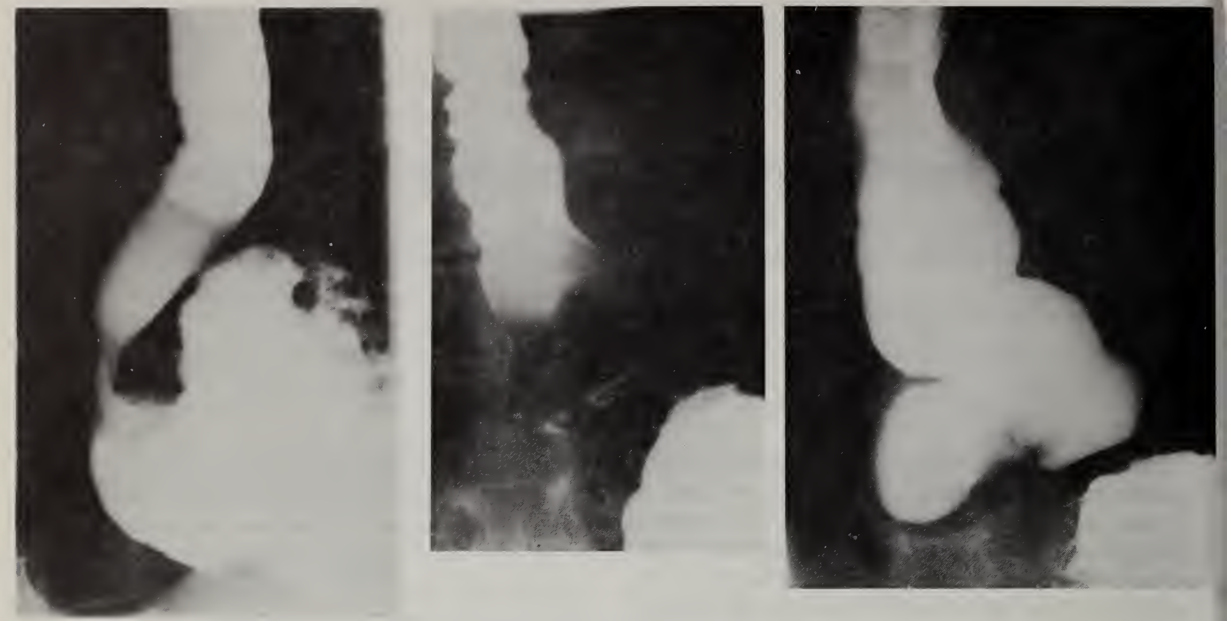

Case Report 3. The barium swallow shows progressive dilatation of the esophagus to a classical late stage achalasia. From left to right 1972 (Preop), 1976 and 1979.

The natural history of esophageal motor disorders in a group studied by VanTrappen et al[6] suggest that a minority of patients progress from a motor disorder with preserved peristalsis and LES relaxation to typical achalasia. In their patients this evolution was documented both manometrically and by barium swallow. It is possible that esophageal surgery in the three cases reported here was a permissive factor in the development of achalasia.

We recommend esophageal motility studies in all patients prior to antireflux surgery or paraesophageal hernia repair. In this way subtle motor disorders missed by barium swallow can be identified.[7] Antireflux surgery should be avoided in patients with absent or poor peristalsis.

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Fatal Splenic Rupture Associated with Histiocytic Medullary Reticulosis

CHRISTOPHER J. WAKEM, M.B., CH.B., F.R.A.C.P.

ABSTRACT—A patient is described who presented with a five-month history of nonspecific systemic symptoms associated on examination with lymphadenopathy, hepatosplenomegaly and pancytopenia. While the patient was being evaluated to rule out the possibility of a lymphoma, the patient developed severe acute abdominal pain and was considered to have had rupture of an intra-abdominal viscus. At laparotomy the patient was found to have had ruptured his spleen and histological examination of the ruptured spleen revealed a diagnosis of histiocytic medullary reticulosis. The patient's brief hospital course was characterized by severe pancytopenia. Histologically, the histiocytic infiltration was found to be associated with severe erythrophagocytosis, leukocyte and also platelet phagocytosis.

The patient's postoperative course was one of rapid deterioration associated with intracerebral bleeding, myocardial infarction, cardiac arrhythmias and pulmonary infection.

Splenic rupture is an uncommon association of hematologic disorders and is uncommonly seen in hematologic malignancy. As far as I am aware, this is the first reported case of a patient with histiocytic medullary reticulosis having a ruptured spleen as part of the clinical course.

Histiocytic medullary reticulosis is a malignant disorder of the lymphoreticular system first described by Scott and Robb-Smith in 1939.[1] It is clinically characterized by a febrile illness associated with generalized wasting, hepatosplenomegaly, lymphadenopathy, moderate to severe anemia, neutropenia and thrombocytopenia. Histological examination of infiltrated organs reveals varying degrees of infiltration by normal or abnormal histiocytes. Erythrophagocytosis can be very prominent giving rise to a severe hemolytic anemia and on occasion phagocytosis of both white cells and platelets can be found. Although occasional responses to antibiotic therapy, chemotherapy, steroids, radiation or splenectomy are seen, the median survival is 8 months.[2] Death usually results from organ failure, sepsis, or severe hemolytic anemia. Death has been occasionally reported from severe thrombocytopenia.[3-4]

I would like to briefly describe a patient who during the diagnostic workup of a febrile illness associated with hepatosplenomegaly and lymphadenopathy, developed spontaneous rupture of his spleen. Histological examination of the ruptured spleen revealed a diagnosis of histiocytic medullary reticulosis.

Case Report

F.K., a 63-year-old white male, was admitted to New Britain General Hospital on 10/1/79 and died on 10/6/79. He had a five-month history of increasing weight loss of 15 pounds, upper abdominal pain, nausea, vomiting, and weakness. He had noted a change in bowel habits prior to admission with alternating constipation and diarrhea. He had experienced early satiety and for the few weeks prior to admission had developed night sweats and dizziness on standing.

Past Medical History: This was not relevant to his current problem.

Social History: He was a retired toolmaker. He had been in Mexico during World War II for a four-year period and was involved in the atomic bomb project.

Physical Examination: On admission blood pressure was 110/80 mmHg, pulse 75 per minute, temperature 104°F, respiratory rate 16 per minute. He was alert and well oriented. The physical examination revealed significant lymphadenopathy in both the anterior and posterior cervical chains and inguinal regions. The spleen was 6 cm. below the left costal margin and was smooth, non-tender, and firm. The liver was 15 cm. in total span.

Laboratory Data on Admission:

1. *Hematologic:* Hemoglobin 12 grams%, hematocrit 36.5%, MCV 85 u^3, MCH 28 uug, MCHC 33.7%. White blood cell count was 3,400/mm^3, polymorphs 45%, stab forms 7%, lymphocyte 16%, atypical lymphocytes 9%, monocytes 23%. The reticulocyte count was 2.4%. Red blood cells were normal except for targetemia. The platelet count was 30,00/mm^3. The coagulation profile was normal. Fibrin degradation products were absent. The direct Coombs' test was negative. A bone marrow examination revealed reduced iron stores. The marrow was hypercellular with normal numbers of megakaryocytes, red cell precursors, and granulocyte precursors. No tumor cells nor granuloma were seen.
2. *Biochemical profile* revealed a serum glutamic oxaloacetic transaminase (SGOT) of 267 mu/ml, serum lactic dehydrogenase 640 mu/ml, alkaline phosphatase 238 mu/ml, total bilirubin 1.7 mg%, serum albumin 3.6 gm%, total serum protein 5.6 gm%. The uric acid, blood urea nitrogen, glucose, calcium, and phosphate were normal. Serum and urine im-

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munoelectrophoreses were normal. Serum protein electrophoresis showed mild hypogammaglobulinemia.

3. *Urinalysis* was normal.
4. *Electrocardiogram* revealed evidence of a right bundle branch block and a left posterior hemiblock.
5. *Radiographic Studies*

   Chest x-ray on 10/1/79 was normal.

   Liver/spleen scan on 10/2/79 revealed slight hepatosplenomegaly with definite focal defects in the spleen and a possible defect in the left lobe of the liver. (Figure 1)

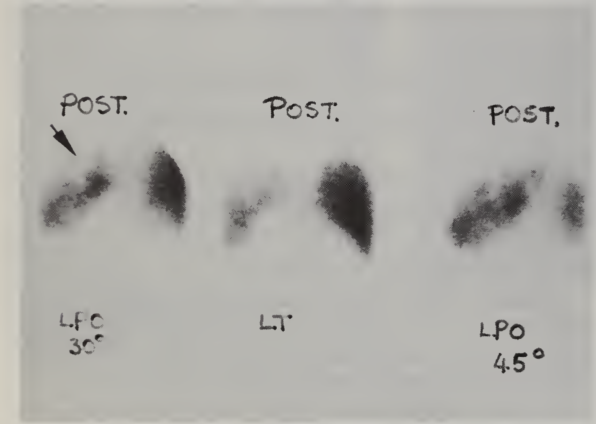

Figure 1

Technitium ^{99m} sulpher colloid liver/spleen scan (posterior views) done on admission showing an area of photon deficiency in the superolateral aspect (see arrow) and also similar deficiences inferiorly.

Hospital Course: The patient had evidence of pancytopenia with severe thrombocytopenia, mild neutropenia, and a normochromic, normocytic anemia. He had evidence of hepatosplenomegaly and lymphadenopathy and it was thought the patient was probably suffering from a malignant lymphoma.

Following admission he continued to spike a high temperature up to 104.5°F. On 10/4/79 he became hypotensive, having developed sharp left upper quadrant pleuritic pain. At this time a surgical consultation was sought and an abdominal paracentesis was carried out which revealed frank blood in the peritoneal cavity. He was taken to the Operating Room with a provisional diagnosis of a ruptured spleen.

At operation he was found to be bleeding from a laceration of the spleen. Two liters of unclotted blood were found in the intra-abdominal cavity. The liver seemed firm and infiltrated. Biospy was taken from the liver, a mesenteric node, and a splenectomy was performed. During the procedure he required fresh frozen plasma, packed red blood cells,and whole blood. Postoperatively he became severaly hypoxic. On 4 liters of oxygen per minute, his pO2 was 85 mmHg, 02 saturation 91.9%, pCO2 25 mmHg, pH 7.31. He was transferred to the Intensive Care Unit.

A chest x-ray at this time showed a left lower lobe basilar infiltrate with plate atelectasis at the right and left bases. Consolidation was noted in the left upper lobe.

While being monitored in the Intensive Care Unit, he was noted to have a grand mal seizure and again at this time was found to be hypotensive and his electrocardiogram revealed ventricular fibrillation. A Swan-Ganz catheter was passed which showed his pulmonary arterial pressure to be 56/21 mmHg. The wedge pressure was 44 mmHg and his CVP was 28 mm. Blood pressure required Dopamine support and the arrhythmia was treated with Lidocaine. He required cardiac resuscitation which resulted in a response in his blood pressure. However, because of persistent hypotension he was returned to the Operating Room and re-explored. At this time a liter of clotted fluid was found in the splenic bed area and there was constant oozing from the splenic bed. He required further blood component therapy with packed cells, fresh frozen plasma, and platelet transfusion. The oozing splenic bed was packed with topical thrombin and gelfoam. A sump was placed in the left upper quadrant. At this time serial electrocardiograms showed evidence of a septal wall myocardial infarction.

Because of constant fever, he had been started on carbenicillin, clindocin, and tobramycin.

Following these acute events, his coagulation profile altered such that his prothrombin time increased to 17.4 seconds and partial thromboplastin time to 46.3 seconds.

On the day after the second procedure, his bilirubin had risen to 7.8 mg%. His SGOT had risen to 2169 mu/ml. His BUN was 42 mg%, creatinine 3.9 mg%. On 10/6/79 he remained hypotensive, febrile and comatose. He continued to have further seizures and was found to be hyperreflexic with flexion contractures of the limbs. He then developed bilateral pulmonary congestion.

On 10/6/79 he was found to be unresponsive and after failed cardiopulmonary resuscitation, he was pronounced dead.

Pathology: At the time of laparotomy the spleen was removed and weighed 1470 grams. Surface showed 100 cc. of clotted blood and fresh blood was noted on the supralateral surface of the spleen. The spleen was torn and ruptured. The tear measured 4.2 x 0.9 cm. The capsule showed some hyalinization but was otherwise smooth. There was obliteration of the splenic architecture and no Malphigian corpuscles were noted. Infiltration was noted throughout the spleen. Microscopically, the spleen showed evidence of congestion, hemorrhage, and coagulative necrosis with diffuse infiltration by bland-appearing histiocytes exhibiting erythrophagocytosis, leukophagocytosis and platelet phagocytosis. (Figure 2)

A mesenteric node removed measured 0.9 x 0.6 x 0.35 mm. On the cut surface it appeared pink and moist with normal nodal architecture being intact. The capsule was intact. Sections of the node on microscopy showed sinus histiocytosis with occasional histiocytes exhibiting erythrophagocytosis and platelet phagocytosis.

A liver biopsy performed at laparotomy revealed normal architecture microscopically. However, in the periportal areas an intense mononuclear infiltrate was noted with patchy granulomatous aggregations of lymphocytes, histiocytes, and epitheloid cells. Some of the histiocytes showed erythrophagocytosis.

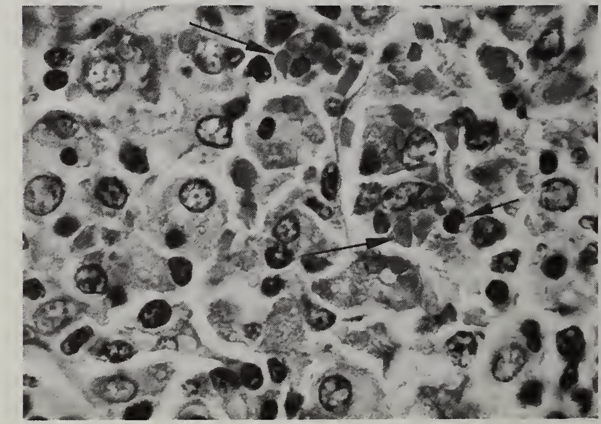

Figure 2

Photomicrography of spleen showing histiocytes with marked erythrophagocytosis (long arrows). Some leukocytic phagocytosis is also present (short arrow). Hematoxylin and eosin, x 280.

Discussion

While splenic rupture is a frequent complication of trauma to the upper abdomen and the chest, its associate with medical diseases is uncommon. Spontaneous splenic rupture has been associated with various infections, particularly bacterial infections such as typhoid fever, protozoal infections such as malaria and viral infections such as infectious mononucleosis.

Its association with infectious mononucleosis can, on rare occasions, lead to death. There have been a number of recent reports of splenic rupture associated with various malignancies. Descriptions of it occurring in patients with non-Hodgkin's lymphoma,[6] plasma cell leukemia,[7] acute lymphoblastic leukemia,[8] and even paroxysmal nocturnal hemoglobinuria, often a premalignant condition, have been described.[9]

In the patient reported here, intra-splenic rupture had probably occurred prior to his presentation. Although no history of trauma was given, it is possible mild trauma may have precipitated the event particularly when one considers his platelet count on admission was markedly depressed. A liver/spleen scan done as part of the diagnostic workup of a suspected lymphoma showed a splenic defect (Figure 1). The usefulness of splenic scintiscanning in the diagnosis of ruptured spleen due to trauma has previously been described.[10] However, in patients with "medical" splenic rupture, the finding of a splenic defect on scan could readily be attributed to tumor invasion or be attributed to some other space-occupying lesion.

That splenic rupture portends a poor prognosis is well established. In most patients, death usually occurs during the acute event or soon after. In non-Hodgkin's lymphoma the association of splenic rupture has a very grave prognosis and only 30% of patients who develop this medical complication survive.[6] Considering the frequency, however, of splenomegaly in association with malignant disease, splenic rupture is still very uncommon.

A major feature of this patient's illness was a severe thrombocytopenia and neutropenia despite a near normal hemoglobin and hematocrit on admission. In view of the severe erythrophagocytosis seen in the spleen, lymph node, and liver, it is surprising he was not severely anemic. His marrow was indeed hypercellular and suggested peripheral blood cell destruction of all cell lines.

Examination of the resected spleen showed not only intense erythrophagocytosis but significant leukophagocytosis and thrombocytophagocytosis. Many of the bland-appearing malignant histiocytes (which may not have features of malignant cells in this condition) were filled with red blood cells. Many of them also contained neutrophils and platelets (Figure 2).

Severe thrombocytopenia was related to his continuing bleeding postoperatively which necessitated a second laparotomy. Despite what was considered to be adequate platelet support, he continued to consume platelets and eventually developed evidence of an intracerebral hemorrhage and a severe neurological deficit which caused him to become comatose. During the period of hypotension associated with bleeding, he also developed cardiac arrhythmias, myocardial infarction and terminally developed sepsis associated with intense disseminated intravascular coagulation which, no doubt, contributed to his worsening thrombocytopenia.

Prior reports of fatal bleeding have been described on two occasions due to platelet phagocytosis secondary to the proliferation of the abnormal histiocytes.[3-4]

Unfortunately, we were unable to treat this patient as he did not survive his initial complications. Treatment in the past has not been particularly successful in histiocytic medullary reticulosis. While splenectomy has occasionally yielded good results,[5] treatment with cytotoxic agents has usually not been effective. However, a recent report in which CHOP-Bleo (Cytoxan, Adriamycin, vincristine, prednisone, and Bleomycin) and COAP (Cytoxan, Oncovin, Ara-C and prednisone), were used in three patients, a remission was obtained in all three.

In summary, splenic rupture is a rare event in hematologic malignancies. However, it should always be considered as a complication in any patient who develops an acute abdomen especially if associated with hypovolemic shock. The finding of a splenic defect on a spleen scan may represent subcapsular or intrasplenic hemorrhage.

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Tuberculous Addison's Disease Complicating Dialysis

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ABSTRACT—A 52-year-old woman with end stage renal disease was found to have tuberculosis within one month after initiation of dialysis. Three months later, progressive, diffuse hyperpigmentation led to the diagnosis of tuberculous Addison's disease. We review, in this report, the problems encountered in the diagnosis and management of these two insidious chronic illnesses in the patient with chronic renal failure.

Introduction

Chronic renal failure (CRF) produces a wide range of clinical signs and symptoms affecting many organ systems. It also predisposes to a number of complications whose features may in turn be obscured by the very clinical setting in which they occur. We present a woman with long-standing severe hypertension, demonstrated renal artery stenosis, and worsening CRF who developed active tuberculosis shortly after the institution of dialysis treatment and subsequently was found to have primary adrenal insufficiency. The only substantial clue to the presence of her Addison's disease was a striking degree of diffuse skin hyperpigmentation.

Case Report

In November, 1978, at age 50, the patient was first evaluated for renal insufficiency and anemia developing after 20 years of well documented hypertension. Laboratory investigation disclosed BUN 80 mg.%, creatinine 4.4 mg.%, sodium 134mEq/L, potassium 4.4 mEq/L, chloride 100 mEq/L, CO2 16 mEq/L, hematocrit 32.8%, hemoglobin 10.1 gms. Creatinine clearance was 13 ml/min. Abdominal X-ray showed disparate renal size, the left kidney measuring 12.5 cm., the right 9 cm. At arteriography, 98% occlusion of the left renal artery was seen. Renin measurements (Boston Medical Laboratory) were elevated in the inferior vena cava (16.9 ng. angiotension I/ml/hr proximally and 12.3 ng. distally), but both renal vein samples showed increased values (left renal vein 33.3 ng. angiotension I/ml/hr., right renal vein 25.4 ng.). Normal values are 0.4-4.5 ng/ml/hr upright on normal salt intake. The study was felt to be inconclusive. Hypertension was controlled with furosemide and hydralazine.

Over the ensuing 15 months, renal function slowly deteriorated. Serum potassium values as high as 6.4 mEq/L were noted. Serum creatinine rose to 7 mg%. Increasing doses of sodium bicarbonate were required to control acidosis. She began complaining of more fatigue and weakness, especially in the arms. Weakness was said to be worse in the upright than in the sitting position. Darkening of the skin was noted, but was felt to be consistent with the cutaneous effects of renal failure. An anteriovenous fistula was created in February, 1980, in preparation for dialysis.

Hemodialysis was begun in June, 1980, as preparation for her receiving a kidney transplant from her son. A "flu-like" illness with fever, cough and gastrointestional upset developed. Chest X-ray disclosed new, bilateral, apical infiltrates highly suggestive of tuberculosis. A PPD, known to have been positive in the past, was again positive. Cultures of material obtained at bronchoscopy were positive for Mycobacterium tuberculosis. Treatment with Isoniazid (INH) 300 mg. daily and rifampin 600 mg. daily was instituted in July, 1980.

Throughout the following summer the patient began complaining bitterly about the progressive darkening of her skin. The striking skin hyperpigmentation continued to worsen despite avoidance of sun exposure. Macular pigment spots also developed on the lips and buccal mucosa. Fatigue and muscle weakness were present, but were unchanged from earlier in the year. Review of abdominal X-rays, taken during her renal angiogram in 1978, showed bilateral adrenal calcifications which were not previously noticed.

Adrenal insufficiency was suspected. Fasting plasma ACTH (Boston Medical Laboratory) was strikingly elevated (greater than 500 pg/ml) on two occasions. Plasma cortisol was 8.6 mcg.% fasting and actually fell to 7.5 mcg.% 30 minutes after intravenous administration of 0.25 mg. of synthetic 1-24 ACTH (cortrosyn). Plasma aldosterone was undetectable. Treatment with Prednisone 5 mg. twice daily was begun in September, 1980. Skin pigmentation diminished gradually over the next several months. Fasting plasma ACTH in November, 1980, was 67 pg/ml (normal up to 80 pg/ml).

In April, 1981, she underwent a living related allograft kidney transplantation obtained from another institution. During the next several months, her course was quite stormy, with severe rejection reactions requiring intensive immunosuppressive therapy. Disseminated fungal infection supervened and eventually led to her demise in August, 1981. At autopsy, the adrenal glands were completely calcified.

Discussion

Infections are common complications in patients with chronic renal failure. Infection is the second most common cause of death in patients on dialysis.[1] Tuberculosis has long been felt to be an important contributor,

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but documentation of an increased risk of tuberculosis during dialysis has been meager. Recent evidence lends solid support to its importance; each of three widely separated groups of dialyzed individuals was shown to have an incidence of tuberculosis approximately ten times that seen in the surrounding control population.[2-5] The adverse effects of chronic renal failure on both humoral and cellular immunity undoubtedly play a major causal role in this problem.[5] The majority of cases of tuberculosis occur early in the course of dialysis treatment, consistent with evidence that long-term dialysis produces improvement of immunologic function.

The diagnosis of tuberculosis in patients with CRF can be substantially delayed unless a high index of suspicion is maintained:[2-5] 1) Symptoms such as malaise, anorexia, weight loss and even fever are non-specific and are often attributed to uremia per se or to complications of dialysis treatment. 2) PPD skin tests are negative more often than would be expected in tuberculous patients with normal renal function. 3) Approximately half of all cases present with predominantly extrapulmonary disease. The clinical appearance is, therefore, frequently atypical. Sputum smears and cultures are often negative necessitating the use of biopsy procedures to establish the diagnosis.

In our patient there was almost certainly some delay in diagnosis due to the non-specificity of her symptoms, but her tuberculosis had a rather typical pulmonary presentation for reactivation disease, the PPD was positive, and sputum cultures proved positive for Mycobacterium tuberculosis. Extrapulmonary disease, presumably originating at the time of her primary tuberculous infection, was also present. Adrenal involvement was clearly evident during retrospective review of her 1978 arteriographic examination, but had been overlooked at the time of study. Adrenal insufficiency was not suspected clinically until an extreme degree of hyperpigmentation developed nearly three years later.

The treatment of tuberculosis under these circumstances must take into account the effects of CRF and dialysis on the disposition of the agent employed. Isoniazid elimination was found to be impaired in some[6] but not all[2-3] CRF patients studied. Where lengthened drug t½ was seen, the affected individuals were slow acetylators; the actual influence of the renal functional impairment was negligible. No reduction in INH dose is therefore necessary.[2-7] Because of its extensive dialysance, it should be administered after dialysis sessions. Pyridoxine is often given concurrently to prevent neuropathy. Rifampin appears to be an ideal drug in this setting since it is not dialysable and is excreted almost entirely via the liver.[2,5,7] Its t½ is not prolonged in CRF and no dosage change is required. Standard recommended doses of INH (300 mg. daily), and rifampin (600 mg. daily) were used in the treatment of our patient and were well tolerated.

Ethambutol can also be used for antituberculous therapy but its t½ is progressively lengthened in advancing chronic renal failure and substantial reductions in dosage are recommended[7] (half the usual dose daily when the GRF is moderately reduced and ¼ when impairment is more severe). This drug is also highly dialysable and should be given at the conclusion of dialysis sessions.

The clinical features of adrenal insufficiency (weakness, weight loss, lassitude, anorexia, nausea and vomiting, postural hypotension) are entirely non-specific; they might all be accounted for on the basis of either chronic renal insufficiency or tuberculosis. The adverse influences of declining adrenal reserve on body electrolyte composition and on the regulation of circulating volume are often mimicked (hyperkalemia, hyponatremia) or reversed (salt wasting) by the effects of advanced renal insufficiency. Both renal and adrenal failure commonly produce diffuse hyperpigmentation. Coextistent renal disease may thus alter and confound the clinical presentation of adrenal insufficiency to such a degree that it might easily escape detection. Some of the clinical features of our patient's advancing renal insufficiency may well have been due to her adrenal lesion, including a salt wasting tendency, disproportionately elevated potassium, and hyperpigmentation. These were all initially attributed to her renal disease alone; only the extreme and progressive degree of hyperpigmentation eventually aroused suspicion.

The mechanism of hyperpigmentation of both adrenal insufficiency and chronic renal failure appears to be the same. Elevated plasma beta melanocyte stimulating hormone (Beta MSH) levels have been previously reported in both disorders.[8-10] Beta MSH was initially felt to be an independent anterior pituitary hormone whose increased secretion in these and other clinical conditions correlated well with observed changes in skin pigmentation. It was recognized recently that Beta MSH is actually a laboratory artifact which is derived from a larger molecule, Beta Lipotropin (Beta LPH) during extraction procedures. Beta LPH is now felt to be responsible for the pigmentary changes previously ascribed to the smaller Beta MSH sequence contained within it. ACTH and Beta LPH are derived from a large (31,000 Dalton) common percursor, are produced in a 1:1 ratio by anterior pituitary ACTH producing cells, and are co-sequestered within the same secretory glanules.[10-11] Plasma ACTH levels are markedly elevated in patients with Addison's disease.[10] In patients with chronic renal failure, plasma ACTH levels have ranged from normal to slightly elevated and are unchanged during dialysis.[12-13] In normal subjects the metabolic clearance rate of ACTH is less than that of Beta LPH, but in renal failure the clearance of Beta LPH is reduced to less than half the normal value while that of ACTH is virtually unchanged.[14] Because of its prolonged t½ in renal failure, Beta LPH accumulates and is probably responsible for the increased pigmentation which is often seen. With the concurrent development of Addison's disease, secretion of both ACTH and Beta LPH is increased dramatically.[10] The resulting plasma levels of Beta LPH are sufficiently high to produce hyperpigmentation even when renal function is normal. Plasma Beta LPH was not measured in our patient but with combined excessive secretion and retarded clearance, marked elevation of Beta LPH concentration would be anticipated. It is likely that these unusual circumstances led to the very pronounced pigmentary change which we observed even before other clinical evidence of adrenal insufficiency became apparent.

Basal plasma (or serum) cortisol measurements in patients with renal failure are normal in some reports, but elevated[8,15,21] in others. Some[12,13,19,21,23] of the latter observations may have been influenced by the recently described tendency for spurious overestimation of plasma cortisol, by radioimmunoassay methods, in subjects with CRF.[24] The metabolic clearance rate of cortisol is reduced substantially in chronic renal failure; its serum t½ is thus prolonged.[15,18,19,23] Conjugated 17-hydroxycorticoids also accumulate in serum in renal failure.[15,18] Hemodialysis readily removes these conjugates and leads to an increase in the metabolic clearance rate of cortisol which far exceeds its dialysance.[15,18] Bacon et al[15] suggested that elevated serum levels of conjugated 17-hydroxycorticoids reduce the hepatic disposal of cortisol in vivo and that removal of the conjugates by dialysis explains the surprising increase in cortisol clearance.

The daily pattern of cortisol secretion was normal in some studies of patients with chronic renal failure[19,23] but abnormal in a variety of ways in others.[12,18,19] Plasma cortisol responses to exogenous ACTH administration are normal.[17] The response of the pituitary adrenal axis to suppression with dexamethasone, stimulation with insulin-induced hypoglycemia, and stimulation with metyrapone is normal in some studies[12,17,18] but abnormal in many others.[12,13,18,21,23] Many of the abnormal findings described are similar to those seen in patients with Cushing's syndrome and could therefore lead to difficulties in the investigation of adrenal hyperfunction (because of falsely positive test results).[24] Some of the abnormal responses may be attributable to over-estimations of cortisol in chronic renal failure as described above.

Aside from reduced urinary excretion of cortisol and its metabolites, the effects of CRF on the pituitary adrenal axis are unlikely to produce difficulty in the laboratory diagnosis of adrenal hypofunction. The definitive diagnosis of Addison's disease requires demonstration of impaired, or absent, adrenal functional reserve.[25,27] The simplest approach is to measure plasma ACTH and cortisol simultaneously. A markedly elevated ACTH level (greater than 200 pg/ml), accompanied by a low cortisol (less than 10ng.%), is diagnostic; failure of such large amounts of endogenous ACTH to provoke more than a token increase in plasma cortisol substantiates absent adrenal reserve.[27] However, special care is usually required in obtaining and handling blood samples for ACTH determination, and reliable assays are not always readily available. Elevation of ACTH in chronic renal failure patients with normal adrenal glands is not sufficient to pose a diagnostic problem. In our patient, ACTH measurements were most convincing.

Alternatively, the lack of adrenal functional reserve can be easily demonstrated by assessing the adrenal response to administration of exogenous ACTH (or the synthetic 1-24 ACTH, cortrosyn). Standard methods employing measurements of either plasma coritsol or urinary cortisol metabolites are employed. In patients with CRF, the influence of renal disease on excretion of cortisol metabolites dictates that plasma cortisol measurements be used. A normal plasma cortisol response to cortrosyn administration is an increase to at least 18 Mg.% within 30 to 60 minutes, although some authors also insist on doubling of the baseline value.[25,27] In our patient, plasma cortisol not only failed to increase after cortrosyn administration, but actually declined slightly.

Hydrocortisone has substantially more mineralocroticoid effect than prednisone. In addition, CRF prolongs the t½ of hydrocortisone whereas the disposition of prednisone is unaffected.[15,28] Our use of prednisone for glucocorticoid replacement therapy in our patient thus avoided potential sodium retention and the necessity of altering dosage to accommodate the influence of renal failure. Mineralocorticoid replacement was unnecessary in the face of regular hemodialysis and persistent hypertension.

Rifampin therapy is known to increase the hepatic metabolism of glucocorticoid drugs through induction of microsomal enzymes.[29] On this basis, the replacement dose initially selected for our patient was somewhat higher than usual and appeared to be appropriate as well as effective during the ensuing six months. Larger than usual steriod doses should also be employed during periods of stress while rifampin is in use. The observed adverse influence of rifampin on renal transplant function may, in part, be attributable to the diminished immunosuppressive effect of the glucocorticoid dosage customarily employed. It is not clear whether this factor played any part in the events which followed transplantation in our patient.

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44.6% OF ALL PRACTICING PHYSICIANS were in primary care specialties at the end of 1981. According to preliminary data from the AMA Physician Masterfile, 190,770 physicians were practicing in internal medicine, family practice, general practice, pediatrics, and obstetrics/gynecology.

The total number of federal and non-federal physicians in 1981, the preliminary data show, was 427,000. This was a 2.9% increase over 1980 and a 37.4% increase since 1970. The statistics are contained in February issue of *Excerpts,* a publication of the AMA's Division of Survey and Data Research.

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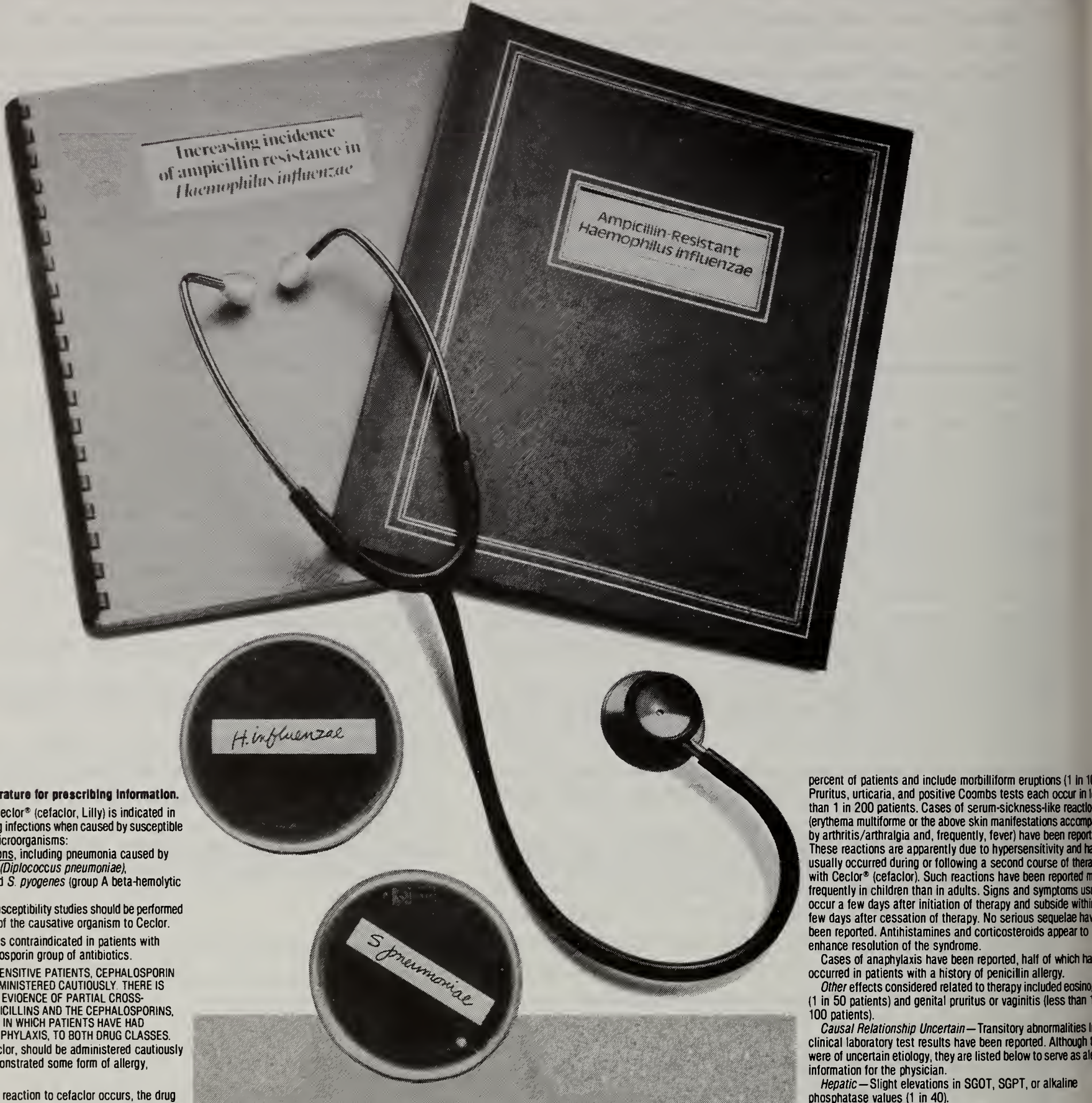
An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin-Resistant Haemophilus influenzae
H. influenzae
S pneumoniae

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae,* and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coomb testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: Adverse effects considered related to cefaclor therapy are uncommon and are listed below:

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Ceclor.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor® (cefaclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophili (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alertin information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less tha 1 in 500) or abnormal urinalysis (less than 1 in 200). [100281

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

Note: Ceclor is contraindicated in patients with known allergy t the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Uniform Determination of Death Act

ETHICS COMMITTEE OF THE AMERICAN ACADEMY OF NEUROLOGY

During the 1970s, 25 states enacted brain death legislation, and three states sanctioned the brain death concept through state Supreme Court decisions. Legislation in 16 states was patterned after four model acts or laws: the Kansas law (1970),[1] Capron and Kass proposal (1972),[2] the American Bar Association model (1975),[3] and the Uniform Brain Death Act (UBDA) of the National Conference of Commissioners on Uniform State Laws (1978).[4] Laws in the other nine states did not follow any particular model.[5] Two of the three states with Supreme Court decisions incorporated the language of the Uniform Brain Death Act into their decisions.[6]

In December 1979, the House of Delegates of the American Medical Association approved an amended AMA model. Thus, by the end of the 1970s, three national organizations—the ABA, AMA, and NCCUSL—had each supported enactment of brain death legislation in general and had proposed its own model acts.

In 1980, the most significant event in brain death legislation occurred when representatives of the ABA, AMA, and NCCUSL, at a meeting in Chicago on May 23, drafted the Uniform Determination of Death Act (UDDA). It is anticipated that all three organizations will have formally endorsed this act by early 1981.

The Uniform Determination of Death Act is a simple, concise act with only one section:

> An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards.[7]

On July 23, 1980, the Ethics Committee of the American Academy of Neurology endorsed this new act. In a previous editorial discussing the Uniform Brain Death Act,[8] the Ethics Committee gave reasons for its support of the UBDA. Except for the inclusion of the heart-lung standard into the UDDA, it is our opinion that these two model acts are essentially identical. Thus, the comments and rationale of the previous editorial apply equally to both acts. We will now review those considerations and relate them specifically to the UDDA.[9]

Like the Uniform Brain Death Act, the Uniform Determination Death Act has as its fundamental purpose the statutory recognition of the concept that the death of the brain is equivalent to the death of the person. The UBDA did not expressly include the heart-lung standard for three interrelated reasons: (1) the heart-lung standard had been accepted by common law; (2) the need was for statutory recognition of the brain standard; and (3) the act should be as simple and brief as possible to address the specific need.

While this line of thinking was reasonable, it became apparent that a one-standard death law was not entirely satisfactory. When death legislation only specified the brain standard, without including the heart-lung standard, legislators and others questioned whether there might not be other standards besides these two. And, if there were not, was there any harm in incorporating both standards into the same piece of legislation? There was also a concern that, by adding a phrase allowing for other means of determining death without expressly mentioning what these were, the door would be open for the eventual addition of neocortical death as a third alternative means for determining death. The promulgation and acceptance of a two-standard law would be sufficiently comprehensive and make it clear that, in fact and in law, there were only two standards for a determination of human death.

Both acts, then, accomplish the same objective: to state as simply and concisely as possible that a person is dead when he has sustained *either* a cardiorespiratory or neurological death. By identifying both standards, the UDDA is more specific in preventing the use of other means of determining death, such as irreversible cessation of all functions of the neocortex.

The UDDA, by not referring to transplantation in

EDITOR'S NOTE: Signatories for the Ethics Committee of the American Academy of Neurology to this statement are: Ronald E. Cranford, M.D., Chairman, Richard Beresford, M.D., J.D., John J. Caronna, M.D., John P. Conomy, M.D. and Paul M. Hardy, M.D.

any manner, applies uniformly to all persons under any circumstances which require a determination of death. One of the most serious errors in legislation has been to amend the definition of brain death to the Uniform Anatomical Gift Act.[10]

As in the acts and laws previously discussed (Kansas, Capron and Kass, ABA, UBDA, and AMA), a determination of death under the UDDA is mandatory, not permissive. The UDDA reads "An individual . . . is dead," not "An individual . . . may be considered dead." Permissive brain death statutes will only create confusion.[11] One simply cannot be dead for some purposes and not for others. One of the most fundamental distinctions between determining death (cardiorespiratory or neurological) and allowing to die (as in the persistent vegetative state) is that a declaration of death is obligatory, while a decision to allow to die is permissive.

Drafters of recent model acts have become increasingly aware of the confusion that exists in the minds of many between whole brain death and the persistent vegetative state. To minimize this confusion, recent legislation has shown a trend toward being more explicit in defining the whole brain death concept, even to the point of redundancy. Illustrating this explicitness and redundancy, the UDDA defines brain death as the "irreversible cessation of *all functions of the entire brain, including the brain stem.*" (Emphasis added.) Drafting committees have spent considerable amounts of time discussing the exact terminology used to define the brain death concept. Such phrases as "the functions of the entire brain" or "all functions of the brain" would have been sufficiently inlcusive, but the drafters of the UDDA, like others before them, decided to be as clear and complete as possible, and to leave no room for doubt as to their intentions. The rationale underlying this explicit definition is important. Such redundancy will not harm legislation, will not be restrictive on the medical criteria developed by the medical profession, and is another means of educating the public on the issues involved in decisions related to the severely brain damaged. A more complex and, in many ways, more significant dilemma awaits our resolution in the future—the appropriate management of patients in a persistent vegetative state and other related syndromes of severe, irreversible brain damage. By clearly distinguishing between issues of determining death and allowing to die, brain death statutes are an important initial step toward dealing with cases of less than complete destruction of the brain.

While it recognizes two definite standards for determining death, the UDDA is silent on the specific criteria and procedures used by physicians to determine that the brain has died. Under this act, physicians are free to use whatever criteria and confirmatory tests are indicated, providing it has been determined that all functions of the brain have permanently ceased (functions of the brain at a clinical level, not at cellular, biochemical, or electrical levels) and that the criteria used are consistent with accepted medical standards. One of the major concerns of the medical profession is that brain death laws would specify definite criteria. This act does not specify criteria, the time of death, the relationship between death and transplantation, or other issues related to the pronouncement of brain death. It does not prevent physicians from using appropriate confirmatory tests, nor does it preclude changes in medical standards with further advances in medical diagnosis and therapy.

This act does not include any sections on liability, as did the most recent version of the AMA model act. Sections providing for immunity for physicians or others who act in compliance with the statute are unnecessary. No liability will accrue if a physician acts reasonably and in accordance with accepted standards of medical practice. Liability provisions only unduly emphasize the medical malpractice issue at the expense of other, equally important, issues of public policy at stake in the entire question of whether a person is alive or dead.

In conclusion, the Uniform Determination of Death Act (UDDA), recently formulated by representatives of the American Bar Association, American Medical Association, and National Conference of Commissioners on Uniform State Laws, represents an important step forward in the ten year history of brain death legislation. The Ethics Committee enthusiastically supports this act and suggests that members of the AAN become familiar with the language and meaning of the act. It is hoped that neurologists will agree to provide testimony in legislative hearings and act in other ways to promote education on the issues surrounding the brain death concept.

REFERENCES

1. Kansas, Maryland, New Mexico, Virginia
2. Alabama, Alaska, Hawaii, Iowa, Louisiana, Michigan, Texas, West Virginia
3. Montana, Tennessee
4. Nevada, Wyoming
5. Arkansas, California, Connecticut, Georgia, Idaho, Illinois, North Carolina, Oklahoma, Oregon
6. Arizona and Colorado; Massachusetts did not specify any particular model.
7. The Uniform Brain Death Act, adopted by the NCCUSL on August 3, 1978, reads as follows:

   > For legal and medical purposes, an individual with irreversible cessation of all functioning of the brain, including the brain stem, is dead. Determinations of death under this act shall be made in accordance with reasonable medical standards.
8. Uniform Brain Death Act. *Neurology* 29:417-418, 1979.
9. Activities which led to the drafting of the UDDA and its progress thus far among the involved organizations, as well as the role of the AAN, are covered in the newsletter section of *Neurology.*
10. Connecticut, Illinois, West Virginia
11. Connecticut, Georgia, Oregon

Terminology in Insurance Company Communications

AMA COUNCIL ON MEDICAL SERVICE

At the 1981 Annual Meeting, the House of Delegates referred Resolutions 2 and 37 through the Board of Trustees to the Council on Medical Service. Both resolutions speak to a problem which has been under study by the Council for the past two years—that of eliminating misleading language in all third party payor communications to beneficiaries, explaining why the benefit paid was less than the amount charged for the service.

With respect to such language in government communications, referred to specifically in Resolution 37, the Council's Report F at the 1981 Annual Meeting described the marked improvements which had been achieved in HCFA's Explanation of Medicare Benefits (EOMB) form, used to inform beneficiaries as to the disposition of their claims for Medicare benefits. As indicated in Report F, the revised EOMB form eliminates *all* references to either "reasonable charges" or "allowed/allowable charges," two phrases which have led to substantial friction between patients and physicians and between physicians and Medicare for at least the past decade. The phrase now being used is "Approved Amount," which, in the Council's opinion, is far more objective and less likely to cause misunderstanding. In addition, the new form includes a statement that "Medicare's approved amount does not necessarily reflect the current actual charges in your local area"—language almost identical to that requested by the House in adopting Resolution 34. While the Council will continue to monitor and seek improvement in Medicare communications to patients, it believes that the current improvements in the EOMB form should significantly decrease patient-physician misunderstanding and friction about Medicare payment amounts.

As indicated in its Report E at the 1980 Interim Meeting, the Council has pursued similar improvement of terminology in communications by the private insurance industry. As the House is aware, the problem in this area again relates primarily to communications by plans which base their payments in some way on the prevailing range of actual charges by physicians—i.e., the "usual and customary or reasonable" concept. Careless use of language in such communications can convey the implication that any fee greater than the amount paid by the insuror is, by definition, "unreasonable."

As noted in Report E, insurance industry representatives have indicated that federal regulations disallow the use of such general and non-abrasive terms as "maximum payment provided under contract" or "maximum benefit under policy" in any group insurance plan which bases its payments on physicians' actual charges rather than on a fixed fee schedule. The Council on Medical Service subsequently reviewed the federal regulations cited, with assistance of the Office of the General Counsel, and concurs with this interpretation.

The regulations in question are those implementing the 1974 Employee Retirement Income Security Act (ERISA), and were issued by the Department of Labor on May 27, 1977. Section 2560.501-3 of these regulations deals with claims procedures for employee benefit plans, and provides that, in any instances where a claim for benefits is wholly or partially denied, the insurance plan must provide to the claimant:

> ". . . written notice setting forth in a manner calculated to be understood by the claimant:
>
> (1) The specific reason or reasons for the denial;
>
> (2) Specific reference to pertinent plan provisions on which the denial is based;
>
> (3) A description of any additional material or information necessary for the claimant to perfect the claim and an explanation of why such material or information is necessary; and
>
> (4) Appropriate information as to the steps to be taken if the participant or beneficiary wishes to submit his or her claim for review."

In addition to these federal requirements, the Council has learned that a number of state Fair Claim Practice Laws, governing all types of private insurance

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EDITOR'S NOTE: This is a report of the AMA Council on Medical Services to the House of Delegates at its Annual Meeting in 1981.

plans, similarly require that determinations of benefits be explained to claimants with reference to relevant provisions in the insurance policy. The language in Section 8 of the "Model Unfair Claims Settlement Practices Regulation," prepared by the National Association of Insurance Commissioners, is illustrative of the actual language in many state laws. It reads:

> "Within fifteen working days after receipt by the insurer of properly executed proofs of loss, the first party claimant shall be advised of the acceptance or denial of the claim by the insurer. No insurer shall deny a claim on the grounds of a specific policy provision, condition, or exclusion unless reference to such provision, condition, or exclusion is included in the denial. The denial must be given to the claimant in writing and the claim file of the insurer shall contain a copy of the denial."

Thus, it appears that such phraseology as "maximum payment provided under contract" would be acceptable only for indemnity-type programs or those using a fee schedule, and not for plans based on the "UCR" concept.

Accordingly, the Council has met on two occasions with representatives of the private health insurance industry, to explore whether explanatory statements could be developed for UCR-type plans which would satisfy the requirements of law while avoiding misleading use of the terms "reasonable," "customary" or "usual." An example of such a statement considered by the Council was as follows:

> "Under terms of this insurance contract, the amount paid for a covered service is based on (is a percentage of)* the amount charged for this service by a majority—but not all—of the physicians in your area during a specific past time period. Because the amount paid is based on data which does not cover the full range of fees charged, and may be based on past data, it may be less than the amount actually billed in some instances. Please let us know if there are additional considerations or information which should be brought to our attention."

Insurance industry representatives rejected the Council proposals for uniform language in explanatory statements for UCR-type plans on the grounds that (a) variations in state law and in reimbursement methodology among different carriers and plans prohibited the development and use of "model" language and (b) the potential antitrust implications made it unwise to enter into discussions with the AMA to develop and promote the use of any kind of uniform wording. The Council strongly disagreed with the representatives of health insurance and medical service plans that "model" language would not be applicable nor acceptable to local plans in any circumstances. However, the unwillingness of legal counsel for the carriers and plans to risk disapproval by a state insurance commissioner or the ERISA personnel and the potential antitrust problems leads the Council to reluctantly report to this House that solutions must be found that do not require the cooperation of the health insurance industry or the medical service plans.

In previous reports to the House, the Council has also encouraged other approaches to resolving this problem, including improvement and clarification of language in the insurance contract itself, and greater use of patient information materials in physicians' offices. Indeed, both the AMA's Practice Management Seminars and a forthcoming revision of the Council's own booklet, "Let's Talk About Health Insurance," devote special attention to this subject. The Department of Practice Management publication, "Preparing a Patient Information Booklet," discusses the types of information about fees and insurance coverage which might be included in such booklets. However, as noted in prior reports, the Council believes that most patients become aware of the difference between the insurance benefit and the physician's actual charge only when filing a claim—underscoring the importance of a clear and non-inflammatory explanation of this difference. Accordingly, the Council on Medical Service recommends:

1. That state and local medical societies continue to bring to the attention of local insurance carriers instances of terminology in carrier communications which lead patients to believe that physicians' charges are "unreasonable."
2. That individual physicians consider the inclusion in their patient information materials of an explanation as to why the amount billed may in some cases be more than the insurance benefit paid.
3. That this report be adopted in lieu of Resolutions 2 and 37.

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*Parenthetical phrase to be used where there is beneficiary copayment; i.e., plan pays 80% of "reasonable charge."

Psychotropic Drug Treatment in the Elderly

MALCOLM B. BOWERS, JR., M.D.

The use of medication for the treatment of certain pathological states of mind is a very ancient practice; however, the era of modern psychopharmacology, characterized by the development of relatively more specific and effective agents, is only about 25 years old. The use of these agents is not a new form of psychiatry; it represents rather an adjunct to the comprehensive management of emotional disorders. Such comprehensive management should always include an accurate assessment of the patient's history (including family history of emotional and medical disorder), physical condition, personality style, current life stresses, and prior function. Psychopharmacological treatment in older patients can best be understood within this broad framework.

Diagnostic Assessment

Recently, this kind of multi-component or multi-axial psychiatric assessment has been greatly facilitated by the development of a diagnostic nomenclature (DSM-III) which recognizes multiple aspects of diagnosis.[1] It may be helpful to survey the axes of DSM III with an older age group in mind.

Axis I refers to the particular behavioral syndrome that is manifest; terms such as depression, anxiety, psychosis and mania apply here and are the more traditional names by which psychiatric problems have been known. Axis I diagnoses are usually the primary target of psychopharmacologic treatment. Although improvement in other components of the diagnostic profile may be facilitated by drug treatment, definitive improvement in other problem areas (except for Axis III) usually requires primarily a psychological approach.

Axis II refers to the personality of the patient and can be an important item to determine with respect to drug treatment. By this axis we denote the long-standing, identifiable, interpersonal styles which individuals exhibit. For example, some patients wish to control all aspects of their lives and tend to resist pharmacological treatment aimed at altering mood or emotional states. Other patients look mainly outside themselves for direction and may have unrealistic expectations for psychopharmacological treatment. Some individuals tend to deny the existence of all stresses while others ruminate obsessively about minor life changes. Some patients are excessively demanding and act entitled to have their needs met immediately; others do not know how to ask for that which they realistically need from others. These various styles of relating often have an important effect upon the working relationship formed between patient and doctor. Another clinical point about personality styles is that they tend to persist in large measure throughout adult life and into old age.

Axis III covers aspects of physical illness which may relate to behavior and includes all acute or chronic physical infirmities. Space does not permit the listing of those illnesses which can have direct and indirect effects upon mental function. However, any significant physical illness is relevant to the comprehensive psychiatric evaluation of a patient for possible drug treatment. Included here also would be any evidence of a compromised central nervous system produced by arteriosclerotic brain disease or senile changes. Also to be noted in this context are medications which the patient may be taking—a particularly important factor in planning psychotropic treatment in older patients. With regard to the possibility of identifying factors on this axis which might affect behavior, the clinical importance of the sensorial examination should be stressed. Orientation items: time, place, date, person—these simple questions, properly posed, can be very helpful in guiding the general clinician. If a clear inability to answer most of the orientation questions accurately is found upon examination, then general medical or toxic (drug) etiologies must be strongly suspected. If disorientation persists over time and is progressive over many months, then the diagnosis of chronic brain syndrome is likely.

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Axis IV covers life stresses and includes certain generic life events which might be considered inevitable, yet which we now know severely test human capacities including those physiological processes involved in adaptation and coping. Events such as death of a spouse, retirement, or moving to a geriatric facility are examples of major life stressors regularly confronted by elderly patients which can significantly alter physical and emotional health.

Axis V refers to the prior function of the patient in the preceding year. In psychiatry, past function is the best predictor of the future. The outcome, for example, of pharmacological treatment for depression in a previously well 75-year-old subject without significant medical decline, is usually quite good. By contrast the outlook for depression arising in an older individual with evidence of long-standing chronic brain syndrome is not nearly so good.

General Principles

Having suggested a comprehensive diagnostic framework I would like to turn to some general principles of treatment.

1. Comprehensive assessment of patients in this age group cannot be overemphasized. Elderly patients conform to a psychosomatic model of disease more than any other age group with the possible exception of infants. Psychosocial events can have major somatic consequences. For example, the mortality for elderly patients entering a nursing home for the first time can be as high as 10%[2] and the morbidity substantially higher. Death of a spouse can have major physical consequences. Conversely, physical illness—exacerbation of diabetes, congestive heart failure, or virtually any systemic disease process—can have major behavioral consequences. In this regard, it is important to obtain a complete medical history as well as some screening laboratory data (including a CBC, BUN, and thyroid profile) for all patients in whom psychotropic drug treatment is being planned.

2. If behavioral change is acute (onset within two weeks or less), one should suspect adverse drug effects or a worsening medical condition. I recently examined an 80-year-old woman who had made a suicide attempt in a nursing home. She had been given a small dose of a neuroleptic for anxiety, and the drug had caused tremor, rigidity, and had acutely compromised her already failing vision. Discontinuation of this medication reversed her so-called "depression" in a few days.

3. It is common experience to find that clinicians regard all behavioral pathology in the elderly as a sign of senility. This tendency is a very common misconception.[3] Senility is in general, a gradual process and is almost never the cause of relatively acute behavioral change.

4. Sedative-hypnotic drugs can be useful for brief periods when an individual is under severe stress, but their prolonged use is rarely justified. This caveat applies to all so-called minor tranquilizers such as diazepam and related compounds.

5. Depression is a common symptom in elderly patients and is usually treatable or self-limited. One should look for the following syndrome: sleep disorder, decreased appetite, poor concentration, loss of usual interests, memory complaints (not necessarily poor memory function), and increased somatic complaints.[4] The latter are particularly evident in elderly depressives in contrast to younger patients with depression. Another important aspect of a depression which suggests a need for psychotropic drug treatment is its persistence. If a depressive picture has continued for several months, we think of it as relatively autonomous. Whereas the depression may have been precipitated by important personal losses or by physical illness, unusual persistence is the characteristic which makes it likely to respond to antidepressant medication. In the evaluation of depression in the elderly, attention should also be given to the tendency for a variety of antihypertensives (reserpine, alphamethyldopa, clonidine) to produce depressive reactions, particularly in individuals with a history of depression. Sometimes adequate treatment for depression can make further antihypertensive therapy unnecessary in mild cases.

6. When using psychotropic drugs in the elderly, one should begin with much lower doses than in younger adults and increase the dose slowly to a therapuetic level. This general principle applies throughout the spectrum of psychotropic drugs used in this age group.

7. Significant side effects are more likely to occur in association with the use of psychotropic drugs in older age groups. The reasons for this increase in side effects are not clear. However, we do know that compensatory physiological mechanisms are not as vigorous in older individuals, so that orthostatic cardiovascular reflexes, drug-metabolizing liver enzymes, and central neuronal chemical systems may be less able to compensate for drug-induced alterations. Presently it does not appear that increased blood or tissue drug levels alone account for the increased incidence of side effects in this patient group. Receptor changes in central neuronal systems which occur with aging are receiving increased attention and may be very important in this regard.

Classes of Drugs

Now let us review the classes of psychotropics themselves. The first class of drugs we will consider are the *sedative hypnotics.* These agents include the barbiturates, chloral hydrate, diazepam and other agents which are generally prescribed as anti-anxiety agents or used to promote sleep.[5] The first principle here is that these agents are best used for fairly brief periods. Acute periods of stress, such as when a patient has lost a family member, are reasonable indications. They should not be prescribed in a non-specific manner to treat "psychic overlay" or some vague psychological component to a physical condition. Or if they are used in this manner, their use should be limited in time. Older patients are known to exhibit increased sensitivity to benzodiazepines.[6] If long-term sleep medication is required, a milder, non-addicting drug such as diphenhydramine is better for protracted use. The major side effect of the sedative hypnotics is their tendency to produce a physiological addictive state. Discontinuation or lapse in dosage after prolonged use may produce a wide spectrum of withdrawal symptoms ranging from mild agitation to a full-blown delerium tremens syndrome or seizures. Further, anxiety may be a component of depression so that long-term treatment with these agents may obscure and delay treatment for an underlying depressive disorder.

Another class of drugs used to manage emotional disorders in the elderly is the *neuroleptics.* The primary indication for these drugs is psychotic symptoms; delusions and ideas of reference are the ones most frequently encountered. Acute psychotic reactions are not at all uncommon in the elderly. One should always suspect a medical condition or drug complication if these symptoms occur in the presence of disorientation. However, acute psychotic reactions can occur in the elderly secondary to environmental stress, physical illness or surgery, or in the context of progressive decline in the major senses of hearing or vision. Inability to perceive accurately one's environment in the context of anxiety can promote psychotic reactions. The options for treatment of psychotic symptoms include one of the more sedative neuroleptics like thioridazine or a less sedative drug such as haloperidol which tends to produce extrapyramidal reactions. The main principle here is the use of relatively low doses initially (25 mg of thioridazine or 2 mg of haloperidol at bedtime) increasing to 75-100 mg thioridazine or 6-8 mg haloperidol per day over 7 to 10 days. These drugs usually require at least a week to exert their anti-delusional effect, and this delay must be taken into account in explaining the anticipated time course of effects to family members or nursing staff. These drugs can also be used effectively for controlling agitated behavior in patients with chronic brain syndrome.[7] The major side effects of these compounds are extrapyramidal reactions and sedation. The former can be severe enough at low doses to make discontinuation necessary. Excessive sedation can usually be managed by administering at least half the dose at bedtime and increasing the dose slowly.

The *antidepressants* are a very useful class of drugs in the treatment of depression in the elderly. In general the tricyclic compounds are the drugs of choice and there is reason to favor a drug such as doxepin which probably has fewer cardiotoxic effects. One usually begins treatment with 25 mg at bedtime and increases the dose to 50-75 mg per day over several days. Again, the onset of true antidepressant effects requires ten days to two weeks. Elderly patients with some degree of chronic brain syndrome are prone to anticholinergic delirium which can be a toxic effect of this class of drugs. Low starting doses and slow augmentation of dose can help avoid this problem. If in the course of antidepressant treatment a patient becomes disoriented or experiences visual hallucinations, the antidepressant should be discontinued for two days or so and then re-instituted at half the prior dose. Another troublesome side effect of the antidepressants is postural hypotension. A fall can be a calamitous event in the elderly who are very prone to hip fractures. Postural hypotension can usually be avoided by small starting doses and gradual increments in dose. Tricyclic antidepressants will also interfere with the action of the antihypertensive drug guanethidine. When successful treatment with an antidepressant has been accomplished, it is usually reasonable to continue the therapeutic dose for about six months before discontinuing the drug by tapering the dose over approximately three weeks.

Lithium is an effective treatment and prophylaxis for elderly manic-depressive patients. Manic attacks can occur at any age and the diagnosis is made by observation of typical symptoms such as increased agitation, grandiosity, rapid speech, and severe insomnia. Lithium doses in the elderly are usually substantially less than those employed in younger adults.[8] Treatment is usually begun at 300 mg per day. Therapeutic doses are rarely greater than 600 mg per day with preferred serum levels less than 1.0 meq/1. Care should be taken in the concomitant use of thiazide diuretics and lithium because of the possibility of excessive sodium loss and increased serum lithium levels. Antidepressants may be used in combination with lithium if depression remains a problem despite lithium treatment. Lithium can produce gastrointestinal side effects such as nausea and diarrhea, although these side effects do not usually occur at the low lithium doses used in the elderly. Lithium toxicity usually occurs only at serum levels greater than 1.0 meq/1, and is characterized by tremor, ataxia, and clouding of consciousness. Again, it is nearly always possible to avoid such problems by very gradual increments in dose. Older patients rarely if ever require more than 600 mg of lithium per day for behavioral control. Lithium inhibits the output of thyroxine by the thyroid, but this effect is usually transient; however myxedema can occasionally occur in an individual with compromised thyroid reserves. A pretreatment thyroid workup and repeat thyroid values every three to six months in individuals being maintained on lithium is recommended. Recently concern has been expressed about renal impairment in lithium-maintained patients. There is substantial controversy over the incidence of this problem in younger adults, and virtually no information is available in elderly patients. Currently pre-treatment serum creatinine or creatinine clearance and a repeat test every six months are indicated. Caution should be exercised in the administration of lithium to individuals with pre-existing renal tubular dysfunction.

A new class of drugs is currently beginning to emerge which may ultimately be important in the aged. This group of compounds—the so-called nootropics—represents a pharmacological approach to the problem of declining brain function. A number of exciting new findings in the neurochemistry of Alzheimer's disease and related disorders hold forth the promise that one day we will have some specific treatments to arrest this process. Currently Hydergine—mixture of ergot compounds—seems to enhance the alertness and function of some patients with mild chronic brain syndrome. Other approaches using cholinomimetic compounds are still in the experimental stage. However a number of pharmaceutical companies are becoming very interested in this class of agents, and it is likely that we will see the advent of new pharmacological approaches to the treatment of declining mental function in the elderly in the near future.

In the literature on psychotropic drug treatment in the elderly, drug interaction problems have been emphasized.[9] There may have been some over-emphasis on this point. Primary physicians should feel competent to gain experience in the appropriate use of the agents described here. Optimally one should have a general psychiatrist colleague available for consultation and possible referral, when necessary.

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Patients Rank Important Aspects of Medical Care

Priorities for primary care, from the patient's point of view, have been ranked on the basis of interviews of 225 patients in a medical clinic at a large teaching hospital. Eight attributes of medical care were evaluated: availability, coordination, expertise, continuity, cost, convenience, compassion and comprehensiveness. The attributes were presented in pairs, with each attribute matched to the other seven, to force selection of the more important characteristic. Overall, continuity of care was the top priority, and cost and convenience were least important. Priorities varied, however, when duration of the medical problem and the patient's age were considered. Chronic care patients ranked continuity as the most important attribute, whereas acute care patients rated coordination and expertise as the top priorities. Like the chronic care group, patients over age 30 ranked continuity first, but younger patients believed that coordination was most important, followed by compassion, expertise and availabilty. Convenience ranked eighth regardless of the problem duration or patient's age. Although cost was generally in seventh place, it moved to fourth as a priority for patients older than 60 years.—M.S. O'Malley, M.D., *et al., University of North Carolina School of Medicine, Chapel Hill.*

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Statement of the American Medical Association

before the

Subcommittee on Health
Committee on Ways and Means
United States House of Representatives

Health Care Competition Legislation

Presented by

FRED C. RAINEY, M.D.

Mr. Chairman and Members of the Committee:

My name is Fred C. Rainey, M.D. I am a physician in the general practice of medicine in Elizabethtown, Kentucky, and currently serve as Chairman of the Council on Legislation of the American Medical Association.

Introduction

Mr. Chairman, to date three bills have been introduced in this Congress that carry the "competition" label: HR 850, introduced by Representative Gephardt; S 139, introduced by Senator Hatch; and S 433, introduced by Senator Durenberger. From our review of these bills, they are apparently intended by their sponsors to seek modifications, in varying degrees, in the health insurance and health delivery systems in order to bring about a reduction in national health care expenditures. While the bills have common elements, there are also vast differences in both approaches and consequences. One bill limits its application to the employment setting, providing for employee choice of health benefit plans. Another covers the employed population, providing for similar consumer choice, but also providing for amendments of substance to the Medicare program. A third bill would cover the entire population, including the Medicaid and Medicare populations as well. The latter bill, H.R. 850, contemplates an extensive restructuring of the health delivery and financing systems, as well as providing for expanded consumer choice. Additional features of H.R. 850 will be discussed later.

AMA has long been concerned about the increases in the cost of medical care and the growing share of gross national product being devoted to health services. It is important to state at the outset that all increases in medical care costs over the past two decades do not represent a "problem" but in fact reflect solutions to long-term public health problems such as high infant mortality and poor access to care. As the Surgeon-General pointed out in his report "A Healthy America," the American people have never been healthier. Access to quality medical care has now been expanded for many groups including the needy and the aged. In this respect, increased expenditures have brought benefits impossible to measure solely from an economic viewpoint. Moreover, increases in health care costs, in large part, stem from the inflationary conditions existing in the entire economy and from the sophisticated advances in medical technology which enable patients to receive an unprecedented high level of medical care.

Even though there are many factors affecting costs and even though improvements in the quality of care and of life have resulted, AMA has been greatly concerned about cost increases and has been actively engaged in activities designed to bring these increases under control. In 1976 the Association created the National Commission on the Cost of Medical Care. This Commission, made up of 27 leaders in the health field, government, insurance, labor and industry, spent nearly 18 months in developing 48 recommendations designed to reduce health care costs and improve health care delivery. Many of these recommendations are current AMA policy and provide for changes such as modifications to the tax code to increase consumer choice in health insurance purchases.

Physicians are indeed conscious of the high costs of medical care. Results of a recent survey show that physicians are modifying their practices to eliminate unnecessary tests and modify business practices. We are especially gratified, Mr. Chairman, because the AMA has exerted special efforts to call upon physicians to restrain the rise in health care costs. Also, AMA is one of the principal participants in a collaborative effort with other interested groups in a program designed to restrain increases in hospital costs.

In addressing the rising national expenditures for health, the proposals now before the Congress and those being considered by the Administration reflect the conclusion that there is an excess of health care services being provided and that this excess is caused by unrestrained demand brought about by third party payment for the bulk of medical care. The theory advocated is that consumers, given a choice in insurance coverage with added financial responsibility for individual decisions, would cause a modification in the use of health care services. Such legislation would affect demand for health services, whereas regulatory efforts to date have been aimed at the supply side of the equation. The theory assumes that for various reasons, including the tax-free nature of employer-provided health insurance benefits, individuals now seek more health insurance than they need, with low deductibles and little or no coinsurance. Therefore, it is asserted that they have no economic incentive to restrain utilization. It is then concluded that if the incentive to "over-insure" is eliminated or the individual is given an opportunity and an incentive to select less comprehensive coverage, that individual will be more cost-conscious in purchasing health care services.

Mr. Chairman, the goals of achieving greater cost-consciousness and individual responsibility in the selection of insurance coverage and in seeking health care are meritorious and should be pursued. When considering legislation to implement this theory, however, it is important to point out that proposals should not be allowed to restrain the appropriate use of needed medical services. Such legislation, therefore, should not be used to create incentives to under-insure. Furthermore, no legislative initiative should be considered that would have the effect of rationing or lowering the quality of care in this country.

Mr. Chairman, it should also be kept in mind in considering measures to reduce overall health expenditures, that with the aging of the American population and with technological and other improvements in the medical arts and sciences, health care expenditures could continue to increase if Americans are to be assured needed health services.

Aside from the direct impacts of "competition" legislation, there are also many indirect ramifications which must not be overlooked. Such proposals must be evaluated in light of the total health care delivery system in this country—a system that is extremely complex with interdependent components. For instance, private insurance and federal programs indirectly cross-subsidize numerous socially beneficial activities, such as care for the poor, medical education and biomedical research. Thus, any dramatic shift of coverage by individuals purchasing plans that exclude coverage for services provided at public or teaching hospitals with large numbers of indigent or Medicaid patients would create major funding problems for those institutions. In addition, problems of adverse selection, among the population as a whole or among specific market groups, could place health insurance premiums out of the reach of the high-risk population. These are but examples of many issues which need to be addressed and adequately dealt with in order to ensure that any program does not create more problems than it was intended to solve.

AMA Policy on Competition/Consumer Choice Concepts

In June of this year, the AMA House of Delegates adopted a report containing principles for evaluating competition legislation should such bills be considered by the Congress. This report identified basic concepts as constituting the critical elements of a pro-competition/consumer choice proposal. These objectives could be accomplished through minimum modifications to the tax code. Such a procedure would allow for introduction of basic concepts of the proposals with minimum interference in the existing delivery system, at the same time providing visible application and demonstration as to the efficacy of the "competition" theory. In our view, this activity should be limited to the employment setting where the principles are easily adaptable, and where currently most persons have their coverage.

Accordingly, any legislative proposal should be aimed at carrying out the following objectives:

> *Multiple Choice of Plans.* Insurance coverage options should be available to employees; accordingly employers, through incentives, should be encouraged (but not required) to offer health insurance plans. If they choose to offer insurance, employees should have a choice from among multiple options.

Under current custom, an employer, either on his own initiative or as a result of collective bargaining, may offer one, or possibly two, health benefit plans. Where a choice is provided to an employee, this may include a fee-for-service plan and, where required by federal law, an HMO option. Often the principal decision-maker as to the level of benefits for a particular employee is the employer. Such a system does not necessarily reflect the needs of an individual employee.

OTA Evaluates Cost-Effectiveness of Bone Marrow Transplant Therapy

CONGRESSIONAL OFFICE OF TECHNOLOGY ASSESSMENT

The Congressional Office of Technology Assessment (OTA) has released a case study which presents a cost-effectiveness analysis (CEA) of bone marrow transplant therapy in the treatment of aplastic anemia and acute leukemia. The case study also suggests general policy options to strengthen control over the way in which new medical technologies become part of the health care system (i.e., diffusion).

The case study is one of 17 that comprise Background Paper #2* to OTA's assessment of "The Implications of Cost-Effectiveness Analysis of Medical Technology." The overall project was requested by the Senate Committee on Labor and Human Resources. This case study was prepared for OTA by Dr. Stuart O. Schweitzer and C.C. Scalzi, R.N., both of the School of Public Health at the University of California in Los Angeles.

According to the case study, the widespread diffusion of certain new medical technologies has contributed to rising health care costs. Financial reimbursement by third-party payers, including Medicaid and Medicare, to users of new technologies has encouraged some of this diffusion and expanded the demand for health services, making both consumers and providers less sensitive to cost. The consequent effect on the cost of health care is an urgent public policy issue at all levels of government.

BMT therapy is a relatively new medical technology used to treat aplastic anemia and acute leukemia. Transplanted bone marrow can replace diseased bone marrow in much the same way a kidney transplant can replace a diseased kidney. Bone marrow produces red blood cells, white blood cells, and platelets. In the case of aplastic anemia, the patient's bone marrow stops functioning. The patient becomes severely anemic and susceptible to bleeding and infection. In acute leukemia, the bone marrow produces immature or malignant white blood cells that replace normal bone marrow elements. Patients who are unresponsive to conventional therapy are potential candidates for BMT therapy.

The data used in the case study for the CEA of BMT therapy were obtained from the UCLA Bone Marrow Transplantation Program, the second largest of six programs in the United States. UCLA performs about 50 transplants annually.

Data were collected on 107 patients with aplastic anemia and acute leukemia who were given BMT therapy. Patients who received transplants were compared with those who received conventional therapy. The mean total cost of BMT treatment for both aplastic anemia and acute leukemia was estimated at approximately $67,772. In comparison, the total cost of conventional therapy for aplastic anemia averaged $21,729, and for acute leukemia, $30,105. Based on observed three-year survival rates, the case study assumes that BMT therapy yields an average life extension of 53 years. In contrast, the case study points out that, although conventional therapy is always undertaken when BMT therapy is not feasible, such

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*OTA background papers are documents which contain information that supplements formal OTA assessments or are an outcome of internal exploratory planning and evaluation. This case study is an authored work commissioned by OTA. The author is responsible for its conclusions. The case study is not a statement of official OTA position, but was subjected to an extensive review process established by OTA. The material in a background paper is usually not of immediate interest such as is contained in an OTA report or technical memorandum, nor does it present options for Congress to consider. Background papers are neither reviewed nor approved by the Technology Assessment Board (TAB).

This case study has been prepared by the Office of Technology Assessment, established by the U.S. Congress as a resource to its members.

The OTA case study, "The Cost-Effectiveness of Bone Marrow Transplant Therapy and its Policy Implications," is available at the U.S. Government Printing Office (GPO), Superintendent of Documents, Washington, D.C. 20402. The GPO stock number is 052-003-00816-5; the price is $2.25. Copies for congressional use are available without charge by calling the OTA publishing office, 4-8996.

treatment does not significantly improve patient outcome.

The case study highlights several complexities associated with CEA's, including the effort to take into account the quality of life of patients after therapy. The case study emphasizes the importance of dealing with quality of life when performing an analysis of BMT, primarily because of the continued serious medical condition of many of the patients who survive the treatment. The cost-effectiveness of BMT therapy varies significantly per life saved or life extended, depending on the group of patients to which it is applied. Thus, generalizations about a procedure for all patients are not always appropriate.

The case study suggests new approaches to controlling the rate of diffusion of new and very costly medical technologies such as BMT therapy. When financial resources are scarce, allocation decisions must inevitably be made which will deny life to some patients while extending it for others. Third-party payers might consider this issue in deciding which services to cover and for whom. Otherwise, the most expensive therapy is given to all patients who need it, further escalating health care costs.

Third-party payers commonly reimburse for any service that the physician in charge considers medically necessary. According to the case study, an equally feasible approach might be to incorporate the physician's judgment into the insurer's own policy process. For example, in the case of a new technology such as BMT, a third-party payer could specify the locations at which the procedure could take place, as well as the characteristics of those patients entitled to coverage.

Another role for a third-party payer is to define a new procedure as either treatment or research, with the implication that research should be supported in a demonstration-type environment, on a limited number of patients, and from a separate budget that the budget for treatment. A procedure would be redefined as treatment as soon as its efficacy and costs were demonstrated to be acceptable. According to the case study, little of this kind of policy analysis is currently being done.

OTA is a nonpartisan congressional support agency which analyzes complex issues involving science and technology for both Senate and House committees. OTA does not advocate particular policies or actions.

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AMA Guidelines for Due Process

1. The physician should be provided with a statement, or a specific listing, of the charges made against him.

   ANNOTATION: The charges made against the physician should be reduced to writing in a document that sets forth sufficient facts to adequately inform the physician of the specific matters complained of. The document should also set forth the authority under which the disciplinary action is taken (e.g., specific section of hospital staff bylaws or medical society bylaws, etc.).

   The statement of charges is a vital and necessary component of due process. It creates the "issue" which must be resolved in the hearing process. The only evidence or argument which should be heard and considered by the hearing panel is that which is relevant to the facts set forth in the statement of charges. The ultimate decision must be whether or not the facts alleged in the statement of charges have been proven by evidence presented to the hearing panel.

2. The physician is entitled to adequate notice of the right to a hearing and a reasonable opportunity to prepare for the hearing.

   ANNOTATION: A copy of the statement or listing of charges must be provided promptly to the physician against whom the charges are made. The physician must be advised of his right to a hearing on the charges and the hearing should be scheduled to allow the physician a reasonable amount of time to prepare his defense. The date, time and place of the hearing should be confirmed in writing to the physician against whom the charges are made. For good cause, the date, time or place of the hearing may be changed upon request made by any party in advance of the scheduled hearing.

   The physician against whom the charges are made should have an opportunity to review any documents that relate in any way to the charges made against him, and to know the identity of the witnesses against him. This will allow the physician an opportunity to adequately prepare his defense.

3. It is the duty and responsibility of the hearing body to conduct a fair, objective and independent hearing pursuant to established rules.

   ANNOTATION: The organization (the medical society, hospital medical staff, etc.) should provide for the selection or appointment of the hearing body in its governing instruments (bylaws or other similar documents), and should establish reasonable rules of procedure to govern the conduct of the hearing body.

4. The rules of procedure should clearly define the extent to which attorneys may participate in the hearing.

   ANNOTATION: It is advisable to give careful consideration to the amount and type of participation which lawyers may have in the hearing procedure. Government operated institutions may be required to allow lawyers to have full participation in the hearing procedure. The procedure itself may be subject to statutory requirements in government institutions. However, other types of institutions (nongovernment) are generally free to establish reasonable limitations on the lawyers' participation in hearings. Usually, lawyers are at least permitted to attend the hearing and advise their client, but further participation, such as questioning witnesses or arguing to the hearing body, may be denied. It should be remembered that the same

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Adopted by the AMA House of Delegates, July, 1980.

rules should apply on both sides, the party making the complaint and the physician against whom the complaint is made. Consideration should also be given to authorizing the organization to have an attorney at the hearing for the sole purpose of providing the hearing body with advice on conducting a fair and objective hearing. The sophistication and complexity of the hearing process should be considered in making the decisions referred to above.

5. The physician against whom the charges are made should have the opportunity to be present at the hearing and hear all of the evidence against him.

   ANNOTATION: If the physician has been given proper notice of the hearing and has not shown good cause for delaying the hearing, he should be present at the time and place indicated in the notice of the hearing. However, if the physician willfully or arbitrarily fails or refuses to attend the hearing, the physician can be deemed to have waived his right to be present at the hearing. The hearing can then proceed in his absence. But the hearing must still be held and evidence heard concerning the statement or listing of charges made against the physician.

   The opportunity to be present at the hearing provides the physician with the opportunity to know all of the evidence against him and thus to know what evidence he must rebut in order to defend himself against the charges made against him. It should also assure the hearing panel that they have provided an opportunity for the full truth of the allegations of the complaint to be discovered.

6. The physician is entitled to the opportunity to present a defense to the charges against him.

   ANNOTATION: The hearing should be a fair search for the truth of the matters in issue. Therefore, after the evidence against the physician has been presented, the hearing body should permit the physician to present any evidence he may have to rebut the evidence presented against him. Such evidence may explain matters which might otherwise be misconstrued, or may be in contravention or denial of the allegations made in the statement of charges, or might possibly expose the bias or prejudice of certain witnesses.

7. The hearing body should render a decision based on the evidence produced at the hearing.

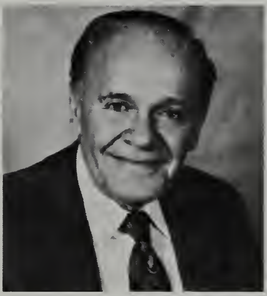
   ANNOTATION: The decision of the hearing body should be made in writing and a copy of such written decision should be provided promptly to the physician against whom the statement of charges has been made. The decision of the hearing body should be based only on the evidence actually presented at the hearing, that is, only evidence which is relevant to the allegations of the complaint and which was presented at the hearing when the physician was present and which the physician thereafter had the opportunity to rebut.

8. In any hearing, the interest of patients and the public must be protected.

   ANNOTATION: One of the primary objectives of any hearing within the medical forums which may utilize these guidelines is the protection of patients and the public. It is an obligation of the medical profession to provide reasonable safeguards for the public against conduct which is not in the best interest of patients.

The President's Page

Keeping the Agenda Realistic



Being president of the Connecticut State Medical Society has been an exciting experience. In my case the excitement was tempered by a period of post-surgical convalescence during which the outpouring of good will from colleagues and friends was heartwarming and reassuring.

As I face the end of my term in office I can summarize the highlights of an interesting year. This is a capsule view of what happened.

a) Following a disturbing and confusing period during which we gained legislative sanction for a Physician-owned Malpractice Insurance Company, we developed a competitive base in Connecticut with a new carrier, CNA, on the scene. Our activities on behalf of the members of our society resulted in millions of dollars of savings on new premiums. We now have the responsibility of policing our "own house." (Our own company is ready should we need it!)

b) After an initial period of confusion engendered by one county society the CNA policy will be to require state membership as a condition for membership in the CNA program—starting in 1982.

c) The statewide Medical Planning Committee has met several times with the purpose of filling gaps in the medical planning area deemed necessary by our peer group. Areas being considered range from new ideas for hospital review being considered by the CHA (not yet seen by practicing M.D.'s) to the important interface between medicine and the corporate community which is now screaming over escalating medical costs. This agenda is obviously a broad one.

d) A new "Disability Committee" is currently studying the creation of a set of standards and guidelines in dealing with routine, uncomplicated procedures and diseases in reference to the length of time sanctioned for disability payments. Our committee is also charged with establishing a dialogue with the business community over practices which might be modified to make the relationship better, vis-a-vis return to work. Our first obligation is the welfare of the patient; the second is honest reporting and elimination of abuse.

e) Legislative efforts dealing with Death With Dignity, fighting attempts to legislate heroic treatment when not indicated, preventing medical practice by untrained paraprofessionals, etc. A mixed bag of endeavour at the State Capital.

f) The long, hardworking council meetings where all of the above and quite a bit more were studied and debated.

g) An occasional poison pen-type letter.

ALL IN ALL, an interesting year—for which I thank all of you.

Andrew J. Canzonetti, M.D.
President

Reflections from the Dean's Office

Death Rates and Doctors

ROBERT U. MASSEY, M.D.

The remarkable decline in the death rate since the early nineteenth century is an event in human history without parallel; like other great changes in history, there is no agreement on its causes. It is fashionable to say that medicine had little to do with it.

Physicians, a clinician pointed out to me, are numerator people, whereas most others, including epidemiologists and underwriters, are denominator people. It is not that physicians deny the denominators; they simply believe that their business is with individual patients, not populations.

At the turn of the century the age-adjusted death rate was 2000 per 100,000, only a little less than in 1850; by 1959 it had dropped to 800 per 100,000, and has fallen further since then; life expectancy in 1900 was 49.2 years; by 1960 it was 69.9 years, and by 1980 it was 73.6 years.

The death rate began to decline in North America and Europe during the early decades of the nineteenth century, corresponding to the period of industrialization, urbanization, and the rise of the humanitarian movement. During these years, the methods of science, which had worked so well in astronomy and physics in the seventeenth and eighteenth centuries, were only beginning to provide explanations in physiology and pathology; application was decades away.

Virchow published *Cellularpathologie* in 1852, and Claude Bernard was laying the groundwork for experimental medicine and physiology in 1860. All the while, the mortality rate was falling. Surgical wound infections declined following the work of Lister and his carbolic acid spray; but sepsis was also declining in those hospitals where antiseptic surgery had not been introduced. Was this because of better nutrition, better surgical technique, cleaner hands, or better nursing care?

The death rate from tuberculosis was falling when Koch announced his discovery of *Bacillus tuberculosis*. It had been 500 per 100,000 at the beginning of the nineteenth century; it was 150 per 100,000 at the end; there was no specific therapy in either 1800 or 1900. By 1945, the death rate was 47 per 100,000, down by two-thirds in 45 years; had the sanatoria such as those at Saranac Lake or Davos made a difference, or was it collapse therapy? By 1952 it had fallen again, this time by more than half in seven years, to 16 per 100,000, and is now about one per 100,000. It is compelling to conclude that streptomycin in 1947 and isonicotinic acid hydrazide in 1952 resulted in the 90 percent decline in the tuberculosis death rate in 30 years.

In 1950 the death rate for poliomyelitis was between 16 and 37 per 100,000 in the United States, the United Kingdom, and Sweden. It is now less than one per 100,000. There is no clear account of the disease before 1800; perhaps it is vanishing as mysteriously as it came, but outbreaks of paralytic poliomyelitis among unvaccinated children suggest that it is too early to stop inoculating.

In 1920, the life expectancy of a diabetic child was two years. I know an insulin dependent diabetic who began taking insulin in 1923 and who is still practicing thoracic surgery. A numerator, to be sure, but there are millions who have gone far beyond the two years of life which was the best they could have expected 60 years ago.

There are other examples: pernicious anemia, rickets, cretinism, Graves' disease, smallpox, pneumococcal pneumonia, subacute bacterial endocarditis—all potentially fatal but now curable diseases.

Social changes and public health measures have had major effects on death rates; McKeown, however, writes: "At the outset, it must be admitted that data do not exist which put the reasons for the decline of mortality beyond dispute. Moreover, they are unlikely ever to become available—."[1]

Physicians in the seventeenth and eighteenth centuries urged most of the public health and hygiene reforms upon reluctant town leaders in the early industrial communities of England and the continent. It was Virchow who labored tirelessly for the improvement of Berlin's water supply. Physicians may be less moved by mortality rates than by the pain and suffering of their patients, taken one by one; nevertheless, in every decade since Jenner and his *Variolae Vaccinae,* the incidence of untimely death has declined because of science, technology, and the art of medicine.

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ROBERT U. MASSEY, M.D., Professor and Dean, School of Medicine, University of Connecticut Health Center, Farmington.

Teaching Medical Law

JOSEPH M. HEALEY, J.D.

The graduation of the Class of 1982 later this month has special meaning for me. They were the first class to have legal and ethical materials as a separate part of the medical and dental curriculum. They are a spirited class for whom I have a great deal of affection. Their graduation has encouraged me to look back on the development of the medical law and medical ethics components of our curriculum and on the role such components play in the education of physicians and dentists.

From the beginning, we have been guided by the conviction that since contemporary practitioners of medicine or dental medicine, and the contemporary researcher encounter legal and ethical problems in health care on a regular basis, it is important for students to begin their life-long process of understanding and confronting these problems as soon as possible during their professional training. Our teaching program has been designed to encourage and to facilitate the early stages of this process. A major goal of the program has been to provide students the opportunity to examine legal and ethical problems arising out of the acquisition and application of scientific knowledge in the health care process. We consider this material to be an important part of the medical and dental curriculum for several reasons:

1. The practice of medicine and dental medicine, as well as the acquisition of knowledge through scientific investigation are deeply imbued with legal and ethical dimensions;
2. The society which supports the education and training of physicians, dentists and researchers and which gives these professionals a mandate, expects that these professionals will understand and respect these dimensions;
3. The practitioner/researcher who understands the legal and ethical dimensions and who has attempted to formulate a response involving them is in a position to avoid many areas of potential liability;
4. Such a practitioner/researcher is also better prepared to play an active role in the formulation of health policy.

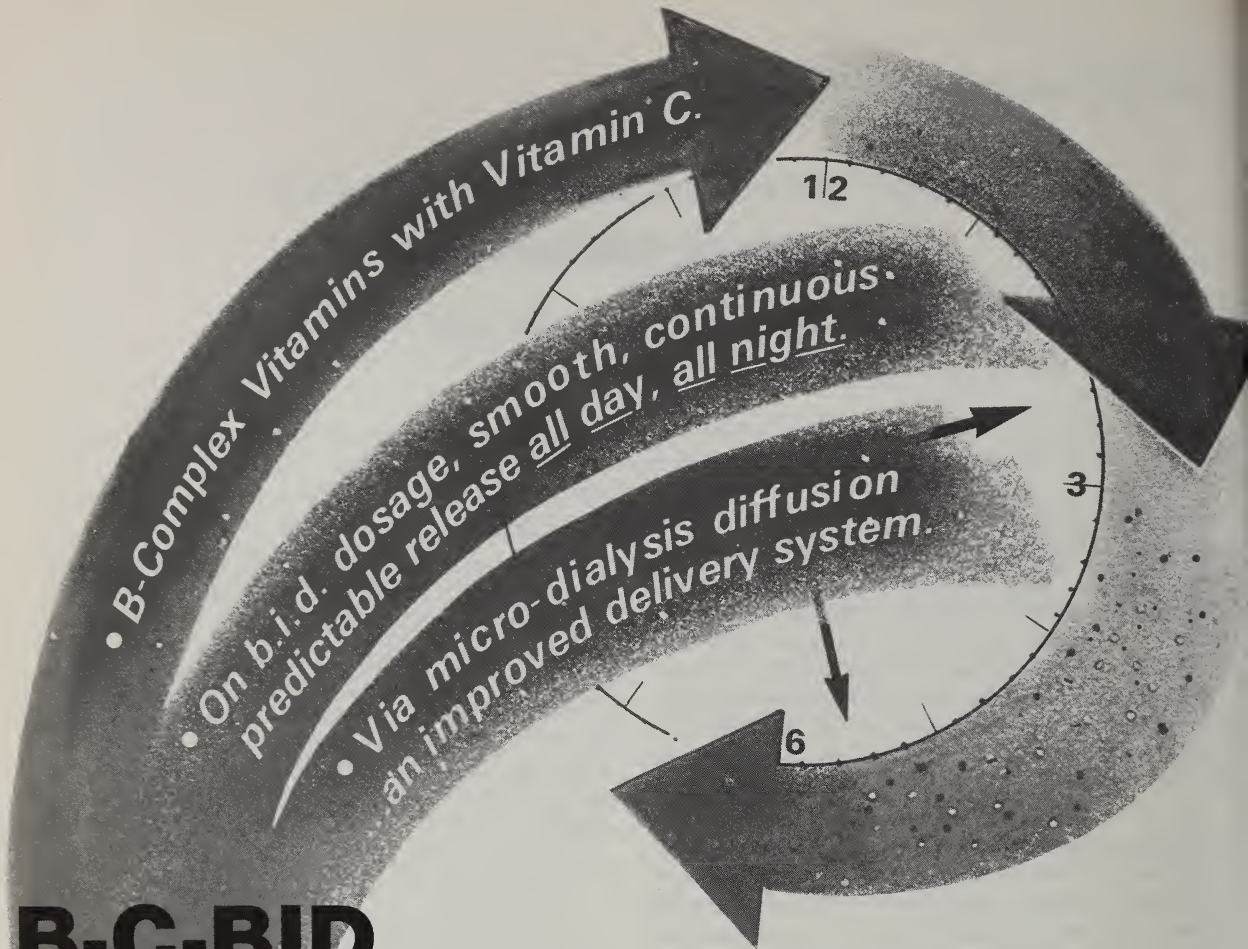
Our purpose in teaching the medical humanities is not to make "better" physicians, dentists or researchers. It is to encourage the professional-in-training to acquire the ability to analyze problems through the disciplines of law and philosophy. This material is presented as part of the basic medical science curriculum for several reasons:

1. It represents basic material in these two disciplines and provides the foundation for the subsequent development and application of material in the clinical medical and clinical dental programs;
2. It provides students engaged in the acquisition, integration and application of basic science material with the opportunity to explore simultaneously the legal and ethical dimension of that material;
3. It permits students to identify valuable resources for formulating responses to legal and ethical problems in health care.

Our teaching program follows a developmental model. The first part deals with reproductive decision making. Issues addressed during this part include: genetic counselling and reproductive decision making; legal and moral aspects of contraception, abortion and sterilization; and civil and criminal liability surrounding reproduction and childbirth. The second part of the course deals with the minor as patient. Issues addressed during this part include: decision-making in the newborn nursery; refusal of treatment for the minor patient; the adolescent in the mental health process and care for the handicapped adolescent. The final part of the course deals with the adult as patient. Issues addressed during this part include: refusal of treatment by the competent adult and for the incompetent adult; truth-telling; consent to treatment; human experimentation and paternalism in care for the elderly.

I will continue this discussion in next month's column.

JOSEPH M. HEALEY, J.D., Associate Professor, Department of Community Medicine and Health Care, University of Connecticut, School of Medicine, Farmington.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EDITORIALS

Howard Levine, M.D.

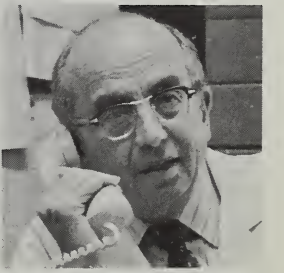
In this special issue of *Connecticut Medicine* we are celebrating the accomplishments of an individual, Dr. Howard Levine, and the institution with which he has been closely associated, the New Britain General Hospital. We are grateful for this opportunity. We seldom have so clear a matter to celebrate.

Articles in this issue have been prepared by members of the Department of Medicine of the New Britain General Hospital and contributed in recognition of Dr. Levine and the hospital he has served for more than thirty years. The articles reflect a wide range of interests and give an indication of the quality of work at the institution which he has nurtured as Chief of Medicine and Director of Education.

As is true of many hospitals in Connecticut, the New Britain General Hospital has experienced remarkable growth in the past 35 years. Transformation of the physical plant was made possible in 1964 by a fund-raising campaign that was oversubscribed by the citizens of the city. During this interval the hospital, which had been dependent upon centers of excellence for many services since its beginning, has been changed to a great degree of self-sufficiency, and a far wider range of skills and techniques.

We are justly pleased by this growth, but recognize that it is not unique among Connecticut hospitals. We shall focus on one feature which is, I believe, unusual, and that is the happy chance that the growth in excellence has been fostered so largely by men who, like Dr. Levine, have been native born and have returned here after their training to practice.

Until late in the 1920s most of the major surgery for people of New Britain was done out of town, or performed here by surgeons from Hartford or New Haven. The Superintendent of the New Britain Hospital in the early '30s chose to go to the Lahey Clinic for medical care. One of the trustees sought relief from a varicocele at the Johns Hopkins Hospital.



Director of Medical Education 1949-1981; Chief of Medicine 1968-1981, New Britain General Hospital; Professor of Medicine, University of Connecticut Health Center 1976-1981.

A welcome change, the establishment of practice here by a qualified specialist, began in 1927, when Robert Buol started in Pediatrics. He shook up a reluctant profession, but he was favored by his obvious competence and his unfailing good humor. He was a pioneer, and he won respect, and his example made it easier for me when, in 1932, I set up my office for practice limited to Internal Medicine. In 1935 I shared my office with another returning native son, Dr. Donald Bristoll. First in his field here, he returned after his residency in Obstetrics and Gynecology and set up high standards of care in deliveries and pelvic repair. Soon after this Dr. George Perakos returned to practice in his home town with special skills in gastroenterology and in radiological examination of the G.I. tract, which he had learned in training with Dr. Bockus of Philadelphia. After World War II another native of New Britain returned here to practice. Dr. Bliss Clark had had his surgical training at Cornell and the New York Hospital and abundant experience with the care of casualties while serving with the Cornell Unit in France. We recall his many years of leadership with the surgical service, the enthusiasm of his residents for his training, and then later in his career, his progressive leadership as administrator of the hospital.

Editorials are expressions of personal opinion and do not necessarily reflect the policies of CSMS.

It is not possible to mention them all, for we continue to be favored by the return to New Britain of natives who have had excellent training and now serve our needs. Perhaps no man more fittingly represents this period of transition through native talent than Dr. Howard Levine.

I have at hand the curriculum vitae of Dr. Levine. The 40 years since his graduation from medical school have been remarkably varied and productive. Review of this document, especially of the portions bearing on his internationally respected original contributions to the field of Chronobiology, shows the extent of his inventive work, and his capacity for precise, time-consuming study. He was also Professor of Medicine at the University of Connecticut, and with other staff members has built our close affiliation with the Health Center. However impressive this is, the side we know best and cherish is his role in the New Britain General Hospital as clinician and teacher. We welcomed him always as a superior teacher. His house staff, generation after generation, valued this but they found him also a quiet enthusiast, easy to talk to, accessible, ready to give them new direction. Not just a director, he has been an example, and has helped bring to New Britain a continuing flow of skilled physicians, many of whom have contributed papers to this New Britain General Hospital issue of *Connecticut Medicine.*

This special issue is a tribute to him as a gentleman, Chief of Medicine, teacher, investigator, clinician. We, and the New Britain General Hospital, are proud to have shared his life.

John C. White, M.D.

Honorary Senior Attending Physician & Cardiologist; former Chief of Staff, New Britain General Hospital.

Technology in the Community Hospital

In this New Britain General Hospital issue of *Connecticut Medicine,* we celebrate the vigor of our institution and particularly the role of our retiring Chief of Medicine, Dr. Howard Levine, in guiding its growth.

Growth in a hospital's health services is closely linked to an increasing technical capacity. At New Britain General Hospital, both have been facilitated by the recruitment of full-time staff for the Department of Medicine, largely through the efforts of Dr. Levine. A partial list of new techniques added during his 13-year tenure would include: hemodialysis, CAT scanning, bone densitometry, nuclear medicine, ultrasound, cardiac pacing, cardiac catheterization, stress testing and the Cardiovascular Unit. The following exemplifies increases in utilization:

	1970-71	*1975-76*	*1980-81*
Ambulatory Monitoring Studies	-	288	1173
Echocardiography Studies	-	297	2283
Cardiac Catheterizations	1	140	406
Pacemaker Implants	±5	63	94

This "high technology" of medicine is expensive to install and employ, and may alter important aspects of institutional growth and patient care in unforseen ways. We must question whether continued technical growth can be kept appropriate for our 432-bed hospital, its community, and its role as a University-affiliated teaching institution.

To guide our technical growth requires that we carefully assess community needs and avoid passing fashions and fancies in diagnostics and therapeutics. We must wait to purchase a new technology until it has matured, is clinically useful and the bugs are out. We must recognize that a new machine requires a commitment to purchase its important updates as they come along, and to train and retrain its operators. We should forsee that some technologies will in a few years outgrow the ability of the hospital to keep pace. We must credential users of certain key technologies such as heart catheterization, and limit their numbers where necessary to avoid turmoil. We must formally monitor quantity, appropriateness and quality of utilization, and assess the impact of new techniques on care in the community.

If properly planned and controlled, complex new techniques do belong in the local hospital rather than at regional centers. The cost of transporting seriously ill patients for CAT scanning has recently been documented.[1] Local needs can be best recognized and met by those most familiar with the local scene and its inhabitants. Our cardiac catheterization facility exemplifies the humane and integrated use of technology in the local setting, where primary physicians and families have ready access.

"High technology" is here to stay in the community hospital. We are fortunate in New Britain that, under the leadership of men such as Dr. Levine, there has been constant attention to the human needs of our patients as well as to careful technological planning.

Charles N. Leach, Jr., M.D. Guest Editor

Director of Cardiology, New Britain General Hospital; Associate Professor of Medicine, University of Connecticut Health Center

REFERENCES

1. Brust JC, Dickinson PC, Healton EB: Failure of CT sharing in a large municipal hospital. NEJM 304:1388-1393, 1981

The Year in Medicine, 1981

There have been a number of significant accomplishments in medicine over the past year, all of which rest on sound experimental research and years of investigation, according to James H. Sammons, M.D., Executive Vice President of the American Medical Association. What often seems startlingly new, or what captures sudden attention, is something we've been watching progress for months or years, he said, so it is difficult to draw arbitrary lines and say that a particular achievement in medicine happened on a particular day or month. Nonetheless, among the most exciting developments—and ones that we feel have advanced the course of medicine—one would have to include:

PET Scanner—Spawned from the CAT scanner, this second generation medical technology (PET: Positron emission tomography) allows us to witness for the first time whether or not actual cells are working as they are supposed to.

Hepatitis B Vaccine—The first entirely new viral vaccine to be approved in ten years, this will be the first line of protection against a virus that infects as many as 300,000 Americans a year.

Lytic Enzyme Therapy—This still highly experimental treatment shows tremendous promise for preserving the heart muscle from further damage following a heart attack, or possibly even nipping a heart attack in the bud, so to speak, by dissolving the clotted material where it clogs a coronary artery.

Hybridoma Technology—This technology has made possible the production of monoclonal antibodies, which can be thought of as akin to the targeted weapons of our immunological defenses. The advent of this technology has opened up new vistas in cancer detection and disease therapy, as well as added to our general understanding of the body's immune system.

Microsurgery—Techniques to join blood vessels continue to expand, now into the brain.

Electrical Stimulation to Promote Bone Healing—Using electromagnetic forces, physicians in a number of medical centers have achieved bone healing at a rate comparable to that of bone-graft operations, with considerably less risk to the patient.

In-Utero Surgery—This year saw pioneering fetal surgery, the bold extension of the surgeon's skills into the womb for the treatment and correction of a number of disorders that threaten unborn babies.

Calcium Antagonists—A new direction for the treatment of certain heart beat irregularities and angina by drugs that influence calcium metabolism at the cellular level.

Beta-Lactams—These new, third generation antibiotics (penicillins were the first generation of beta-lactam antibiotics) have a wide spectrum of activity against gram-negative bacterial infections.

Beta-Blockers—This new line of drugs has sharply reduced the death rate among heart attack victims by significantly protecting against the recurrence of an attack.

Looking forward to the new year, organized medicine is committed to help develop effective health care mechanisms at the local level as the federal government begins to cut back on funds for providing health care. The American Medical Association is determined to make health care more cost-effective while preserving its quality and its availability.

IN MEMORIAM

SCULLY, ROGER T., Georgetown University, 1935. Dr. Scully was a general practitioner in the Hartford area since 1936. Although he officially retired in 1974, he continued as a part time member of the Emergency Room staff until 1979. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Scully died February 13, 1982, at the age of 75.

SHERMAN, STEPHEN H., Cornell Medical School, 1932. Dr. Sherman was a psychiatrist in the Hartford area since 1936, until his retirement in 1969. He was a member of the Hartford County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Sherman died January 26, 1982, at the age of 77.

TRAURIG, ALLEN R., Wayne State University School of Medicine, 1958. Dr. Traurig was a urologist in the New Haven area since 1963. He served as instructor in urology at the Yale University School of Medicine. He also served as senior medical officer in the U.S. Navy, 1960-1962. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Traurig died suddenly while vacationing in Puerto Rico February 12, 1982. He was 47 years old.

TWADDLE, PAUL, Yale Medical School, 1935. Dr. Twaddle was a cardiologist in the Hartford area since 1937. During World War II he served in the Coast Guard. He was on the staff of Hartford Hospital and became the hospital's chairman of the cardiology department in 1950 and served in that capacity until he retired in 1977. He was a member of the Hartford County Medical Association and the Connecticut State Medical Society. Dr. Twaddle died February 14, 1982, at the age of 73.

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190th ANNUAL MEETING
# of the
CONNECTICUT STATE MEDICAL SOCIETY

Parkview Hilton Hotel
One Hilton Plaza, Hartford, Connecticut
May 26, 27, 1982

COMMITTEE ON PROGRAM OF SCIENTIFIC ASSEMBLY

Hugh L. Dwyer, M.D., New Haven, Chairman
Leo P. Giardi, M.D., Hartford
Edward Dunn, M.D., Waterbury
Ramon N. Kranwinkel, M.D., Danbury
Thomas J. Spackman, M.D., Farmington

GENERAL INFORMATION
READ CAREFULLY

REGISTRATION

The registration desk will be located in the lobby of the hotel and everyone attending the meeting is requested to register. There will be no charge for registration and all members of the Society will be given a guest luncheon ticket when and only if they register.

PARKING

There are parking facilities at the hotel and in the immediate surrounding area.

TELEPHONE

Telephone messages will be received at Hartford 249-5611.

LUNCHEON

Luncheon will be served in the ballroom on the mezzanine floor and ALL MEMBERS OF THE SOCIETY REGISTERING WILL BE THE GUESTS OF THE SOCIETY. PLEASE REMEMBER A LUNCHEON TICKET WILL BE GIVEN TO MEMBERS ONLY IF THEY REGISTER.

HOTEL ACCOMMODATIONS

Persons who wish to stay overnight at the hotel should make room reservations as soon as possible. Please indicate in your letter that you are attending the Connecticut State Medical Society meeting.

ANNUAL DINNER

The annual dinner will be held at the hotel on Wednesday, May 26, 1982. The social hour will be at 6:30 P.M. and the dinner at 7:30 P.M. All persons attending the dinner will be the guests of the Society at the social hour. Your reservations for dinner should be sent in as soon as possible to the CSMS office.

PROGRAM

The House of Delegates will be held on May 26th and the scientific program will be held on May 27th. The scientific program will be concentrated in one day, May 27th. The general program will be held in the ballroom between 10:30 A.M. and 4:00 P.M., and the section meetings will be held in the morning at 8:30 A.M. and in the afternoon at 4:00 P.M. in the rooms listed in the program.

EXHIBITS

All the exhibits will be located on the mezzanine floor. Physicians should take advantage of the opportunity to review what is new and timely by visiting the commercial exhibits.

ALL ACTIVITIES WILL TAKE PLACE AT THE HOTEL UNLESS OTHERWISE INDICATED

HOSPITAL RESIDENTS, INTERNS AND MEDICAL STUDENTS ARE CORDIALLY INVITED TO ATTEND THIS MEETING

ANNUAL MEETING OF THE HOUSE OF DELEGATES
WEDNESDAY, MAY 26, 1982
BALLROOM MEZZANINE

Presiding:

Joseph S. Sadowski, M.D., Hartford, Speaker of the House
Edward F. Hecklau, M.D., Greenwich, Vice-Speaker of the House

12:00 REGISTRATION OF DELEGATES
Light sandwich buffet will be available

12:30 CALL TO ORDER
ADJOURNMENT AT CONCLUSION OF BUSINESS

ANNUAL DINNER OF THE SOCIETY
WEDNESDAY, MAY 26, 1982
BALLROOM MEZZANINE

PROGRAM

Presiding: Andrew J. Canzonetti, M.D., *Waterbury*

PRESENTATION OF GUESTS AND DELEGATES FROM STATE MEDICAL SOCIETIES

INAUGURATION OF INCOMING PRESIDENT
Gioacchino Parrella, M.D., *Milford*

DINNER MUSIC

GENERAL SCIENTIFIC PROGRAM
THURSDAY, MAY 27
MORNING SESSION

8:15 REGISTRATION—Hotel Lobby

8:30-10:00 MEETINGS OF SECTIONS OF THE SOCIETY
(Listing elsewhere in program)

10:00 INTERMISSION TO VISIT EXHIBITS—Mezzanine

BALLROOM

10:20 **CALL TO ORDER AND WELCOMING REMARKS**
Gioacchino Parrella, M.D., Milford, President, Connecticut State Medical Society

Presiding: HUGH L. DWYER, M.D., *New Haven*

SYMPOSIUM ON IMAGING

10:30 **MODERN IMAGING APPROACH TO THE BILIARY TRACT**
FREDERICK U. CONARD, M.D., Farmington, CT; Assistant Professor Radiology, University of Connecticut Health Center

11:00 **MODERN IMAGING APPROACH TO GASTROINTESTINAL BLEEDING**
ROBERT D. RUSSO, JR., M.D., Bridgeport, CT; Director of Diagnostic Radiology, Medical Director of CT Scan Division, Department of Radiology, St. Vincent's Medical Center

11:30 **THE CLINICIAN AND ROLE OF THE RADIOLOGIST IN MODERN DAY IMAGING**
ANTHONY F. LALLI, M.D., Cleveland, OH; Director, Clinical Radiology Department, Cleveland Clinic Foundation

12:15 **PANEL DISCUSSION:**

Moderator: Thomas Spackman, M.D., Farmington

Panel: Frederick U. Conard, M.D., Farmington
Robert D. Russo, Jr.,M.D., Bridgeport
Anthony F. Lalli, M.D., Cleveland

12:30 **INTERMISSION TO VISIT EXHIBITS**

1:00 **LUNCHEON**—Ballroom

AFTERNOON SESSION

Presiding: Edward Dunn, M.D., *Waterbury*

SYMPOSIUM: NEW DIRECTIONS IN THROMBO-EMBOLISM

2:00 **PREVENTION OF VENOUS THROMBO-EMBOLISM**
ALEXANDER G.G. TURPIE, M.D., Hamilton, Ontario, Canada; Associate Professor of Medicine, McMaster University; Internist, Hamilton General Hospital

2:30 **NON-INVASIVE DIAGNOSIS OF DEEP VENOUS THROMBOSIS**
CHARLES A. BUCKNAM, M.D., Hartford, CT; Director of the Non-invasive Vascular Laboratory, Hartford Hospital

3:00 **THROMBOLYTIC THERAPY, MECHANISMS OF ACTION, INDICATIONS AND COMPLICATIONS**
MATTHEW A. MILLER, M.D., Danbury, CT; Chief of Pulmonary Section, Danbury Hospital; Assistant Clinical Professor, Yale University School of Medicine, New Haven

3:30 **PANEL DISCUSSION:**

Moderator: Edward Dunn, M.D., Waterbury

Panel: Alexander G.G. Turpie, M.D., Canada
Charles A. Bucknam, M.D., Hartford
Matthew A. Miller, M.D., Danbury

INTERMISSION TO VISIT EXHIBITS

4:00 **MEETINGS OF SECTIONS OF THE SOCIETY**
(Listing elsewhere in program)

THURSDAY, MAY 27

MEETINGS OF SECTIONS OF THE SOCIETY

MORNING SECTION PROGRAMS

SECTION ON FAMILY PRACTICE

8:30 A.M. Colt Rooms A&B

President: Thomas L. Cronan, M.D., *Trumbull*
Secretary: Dewees H. Brown, M.D., *Middletown*

Program to be announced

BUSINESS MEETING

ELECTION OF OFFICERS

SECTION ON FORENSIC MEDICINE

8:30 A.M. Pope Room

President: Bertrand P. Bisson, M.D., *Waterbury*
Secretary: Oscar Rogol, M.D., *Seymour*

ROUND TABLE DISCUSSION—"MEDICAL EXAMINERS AND PATHOLOGISTS CURRENT PROBLEMS"

SECTION ON INTERNAL MEDICINE

8:30 A.M. Colt Room C

President: Edward H. Scherr, M.D., *New Haven*
Secretary: Leonard E. Grauer, M.D., *New Haven*

THE INFLAMMATORY RESPONSE AS IT RELATES TO ARTHRITIS
CHARLES A. DiSABATINO, JR., M.D., New Haven; Assistant Clinical Professor of Medicine, Yale University School of Medicine; Attending Staff, Yale New Haven Hospital and Hospital of St. Raphael

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SECTION ON PHYSICAL MEDICINE AND REHABILITATION

8:30 A.M. Capitol Room

President: L. Ronald Homza, M.D., *Bridgeport*
Secretary: Sanford W. Harvey, M.D., *Middletown*

PAIN
OTTO GOLDKAMP, M.D., Hanover, New Hampshire; Director of Physical Medicine and Rehabilitation, Mary Hitchcock Memorial Hospital, Hanover, New Hampshire

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SECTION ON PREVENTIVE MEDICINE

8:30 A.M. Charter Oak Room

Chairman & Secretary: J. Howard Johnston, M.D., *Wethersfield*

HYPERTENSION AND COMPLIANCE
MARTIN LEE BENSTOCK, M.D., Hartford; Assistant Director of Medicine, St. Francis Hospital; Director of Educational Programs, St. Francis Hospital; Assistant Professor of Medicine, University of Connecticut Medical School.

SECTION ON PSYCHIATRY

8:30 A.M. Elizabeth Room

President: Richard M. Bridburg, M.D., *Hartford*
Secretary: Victor A. Altshul, M.D., *New Haven*

Program to be announced

BUSINESS MEETING

ELECTION OF OFFICERS

SECTION ON PULMONARY DISEASES

8:30 A.M. Bushnell Room

President: Frederick Lee Sachs, M.D., *New Haven*
Secretary: Michael G. Steinberg, M.D., *Stamford*

8:30 **Business Meeting**

9:30 **ACID-BASE BALANCE IN PATIENTS WITH CHRONIC AIR FLOW LIMITATION**
HOWARD LEVITIN, M.D., New Haven; Professor of Medicine, Yale University School of Medicine

10:30 **GRAM NEGATIVE PNEUMONIA: COLONIZATION VERSUS INFECTION**
MICHAEL PARRY, M.D., Stamford; Assistant Clinical Professor of Medicine, Columbia University College of Physicians and Surgeons

AFTERNOON SECTION PROGRAMS

SECTION ON OBSTETRICS AND GYNECOLOGY

4:00 P.M. Elizabeth Room

President: Richard F. Jones, III, M.D., *Hartford*
Secretary: John M. Gibbons, Jr., M.D., *Hartford*

IN-VITRO FERTILIZATION

ALAN H. DeCHERNEY, M.D., New Haven; Associate Professor Obstetrics and Gynecology, Yale University School of Medicine

SECTION ON PROCTOLOGY

4:00 P.M. Goodwin Room

President: Bernard J. Kaplan, M.D., *Hartford*
Secretary: Sanford Savin, M.D., *Bridgeport*

BUSINESS MEETING

ELECTION OF OFFICERS

SECTION ON RADIOLOGY

4:00 P.M. Pope Room

President: Edward F. Fox, M.D., *Bristol*
Secretary: Robert D. Russo, Jr., M.D., *Bridgeport*

BUSINESS MEETING

SECTION ON SURGERY

2:00 P.M. Ballroom

President: John J. Mendillo, M.D., *New Haven*
Secretary: Martin Dinep, M.D., *New Haven*

(Combined program with Connecticut Chapter of American Board Surgeons and Connecticut Chapter of American College of Surgeons)

2:00 **PREVENTION OF VENOUS THROMBOEMBOLISM**
ALEXANDER G.G. TURPIE, M.D., Hamilton, Ontario, Canada; Associate Professor of Medicine, McMaster University; Internist, Hamilton General Hospital

2:30 **NON-INVASIVE DIAGNOSIS OF DEEP VENOUS THROMBOSIS**
CHARLES A. BUCKNAM, M.D., Hartford; Director of the Non-Invasive Vascular Laboratory, Hartford Hospital

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Moderator: Edward Dunn, M.D., Waterbury
Panel: Alexander G.G. Turpie, M.D., Canada
Charles A. Bucknam, M.D., Hartford
Matthew A. Miller, M.D., Danbury

4:00 **BUSINESS MEETING**

SECTION ON THORACIC SURGERY

4:00 P.M. Charter Oak Room

President: Joseph Dineen, M.D., *Ansonia*
Secretary: Allan L. Toole, M.D., *New Haven*

BUSINESS MEETING

ELECTION OF OFFICERS

SECTION ON UROLOGY

4:00 P.M. Colt Room C

President: James F. Walsh, III, M.D., *Bridgeport*
Secretary: Haik Kavookjian, Jr., M.D., *Stamford*

BUSINESS MEETING

FUTURE POLICIES FOR SECTION

SECTION ON ALLERGY

6:30 P.M.
Reading Room Restaurant
40 Mill Lane, Farmington, CT

President: Carlton Palm, M.D., *New Haven*
Secretary: Gerald J. Germano, *Ansonia*

AN APPROACH TO ENVIRONMENTAL SKIN DISEASE

STEVEN COHEN, M.D., New Haven; Assistant Professor of Dermatology and Epidemiology, Yale University School of Medicine; Director, Section of Occupational Dermatology, Yale-New Haven Hospital

SPECIAL NOTICES
CONTINUING MEDICAL EDUCATION CREDITS

AMA PHYSICIAN'S RECOGNITION AWARD

As an organization accredited for continuing medical education by the Affiliation Committee for Continuing Medical Education, Yale University School of Medicine certifies that this program is acceptable for Category 1 credit as specified by the American Medical Association for the Physician's Recognition Award. Credit is granted in this category on an hour-for-hour basis.

AMERICAN ACADEMY OF FAMILY PHYSICIANS

The Commission on Education of the AAFP has accredited the scientific program of the Society's Annual Meeting for four hours of prescribed credit for the general lectures and the family practice section meeting, and one hour of elective credit for each lecture attended which is presented by the individual specialty sections of the Society.

THE CONNECTICUT STATE MEDICAL SOCIETY
acknowledges with thanks a program grant received from
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Our exhibits contribute to the value of our Scientific Assembly by presenting goods and services of interest and importance to physicians. Personal visits at the booths will increase your understanding of the materials and programs on display.

TECHNICAL EXHIBITS

Aetna Life and Casualty, Hartford, Connecticut
Ayr Insurance Agency, New Haven, Connecticut
Connecticut Army National Guard
Datamedic Corporation, Plainview, New York
G.A. Levod, Inc., Newton, Massachusetts
Eli Lilly & Company, Indianapolis, Indiana
Linde Homecare Medical Systems, Georgetown, Connecticut
Medical Data Processing Corporation, Glastonbury, Connecticut
Med-X Health Services, Inc., West Hartford, Connecticut
Merck Sharp & Dohme, West Point, Pennsylvania
Metpath, Inc., Hartford, Connecticut
New MediCo Associates, Inc., Waterbury, Connecticut
Parke, Davis & Company, Detroit, Michigan
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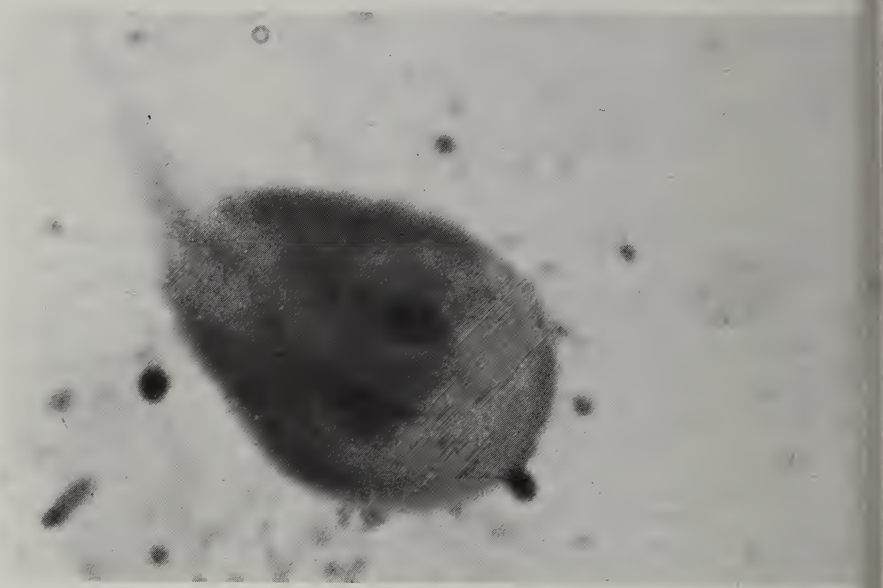

Giardia lamblia

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This problem is exacerbated because the unlimited tax-free nature of employer-paid health benefits often makes it more attractive for an employee to take remuneration in health care benefits instead of cash. The system often results in comprehensive coverage, with little or perhaps no real choices for the employee.

> *Minimum Benefits.* Health insurance plans offered to employees should contain certain benefits, including catastrophic coverage.

This precept is intended to avoid the undesirable consequences which could result from being "under-insured." Such a provision would also help in diminishing the likelihood of an "adverse selection" process.

> *Equal Contributions.* Equal contributions should be made by the employer toward health insurance plan premiums, regardless of the plan selected by the employee.
>
> *Non-Taxable Rebate to Employees.* An employee should receive a non-taxable rebate where a plan costing less than the amount of the employer contribution is selected by the employee.

These provisions are intended to provide incentives to the employee in selecting plans to meet his individual needs and to avoid the overuse of the health delivery system perceived to result from over-insurance.

> *Maximum Non-Taxable Contribution Limitation.* A limit (adjustable for inflation) should be placed on the amount of health insurance premiums paid by an employer which are eligible for tax deduction by the employer as a business expense. Amounts paid by employers in excess of this limit would be taxable income to the employee.

Current tax law, which allows unlimited tax deductibility to the employer for premiums the employer pays for an unlimited exclusion from personal income to the employee, is considered to constitute an incentive for over-insurance. This provision would end any tax bias whereby health benefit contributions are more valuable to an employee than other forms of income.

> *Employer Non-Compliance.* Unqualified plans should not be eligible for tax deduction.

A provision of this type would augment the previous precept and encourage employers to offer plans enabling the employee to have a choice from among multiple qualifying plans.

Other Concepts in Pending Legislation

The foregoing concepts are basic to legislative proposals before the Committee. However, legislative initiatives before the Committee also go far beyond these and could create an adverse impact on our health delivery system. We would urge the Committee to reject any legislation that would increase federal involvement in regulation of health care delivery that would merely replace existing programs of regulation with yet another set of expensive and complicated regulatory dictates, or that would require undesirable restructuring of our health system. One of the primary goals of fostering consumer choice or the so-called pro-competition legislation should be an end to intrusive national regulation that creates rigid national standards that do not reflect local needs and circumstances. We would also urge rejection of preemptive federal legislation that would adversely affect the existing balance between the federal and state roles in regulating health care. Legislation that would nullify state laws or regulations in areas such as licensure, insurance, corporate practice of medicine and open staffing of hospitals should be avoided so as not to disrupt or interfere with these appropriate state activities designed for consumer protection.

Other cautions must also be stressed. It is important that any program to promote competition or consumer choice should not create or perpetuate preferential treatment, particularly through federal mandate, funding or subsidy, of any one particular mode of health delivery. A pluralistic system should be maintained and encouraged in a neutral public policy setting. The right of the patient to have freedom to choose his provider of health care must not be abrogated or restricted.

Medicare and Medicaid

Some proposals of the so-called competition approach would include the Medicare and Medicaid programs within their scope. The mechanism usually proposed is a voucher system under which the program beneficiary would receive a voucher that can be applied toward the purchase of health care coverage through private insurance.

Mr. Chairman, there are many problems involved in applying the so-called competition concepts to Medicare and Medicaid. These programs were established because of the unique characteristics and needs of the populations they were designed to serve. Rather than establish a program that would make radical changes in the major programs for these vulnerable populations, we believe it would be more appropriate to evaluate the impact of changes brought about in the employment setting. Medicaid may not be appropriate for application of the "competition" approach because of the unique problems of access to care facing the poor. The needy may be discouraged from seeking necessary and proper care because of potential financial disincentives. Likewise the medically needy become eligible under the program solely because of the fact they have already incurred expenses that have reduced their income to Medicaid eligibility levels. Under Medicare, knotty problems such as adverse selection, and the determination of the share of cost of medical care for the elderly that should be borne by the federal government must be addressed before any voucher or other system for transforming Medicare into the "competition" mode should be considered.

Conclusion

Mr. Chairman, in the limited time available today, we have identified a number of issues in "competition" legislation affecting health care delivery, and have offered our views as to issues that this Committee and the full Congress should consider with respect to any "competition" proposal.

We have pointed out above that proposals before the Committee embrace various sectors of our population. We believe it is important that any proposal to implement the concepts of "competition" in health care delivery should not cover the entire population but should initially address only limited sectors. A program that would encourage the offering of multiple health benefit plans in the employment sector, allowing for employee choice and the basic concepts identified above, would permit introduction of "competition" concepts with minimum interference in the existing system. These changes can be accomplished through tax code modifications. This would provide valuable experience to demonstrate the validity of the "competition" theory in health care.

While many economic theories appear reasonable on paper, human behavior does not always mirror theory and can lead to unexpected results. Radical changes in health care delivery should be avoided, as should any proposals that would serve to ration or lower the quality of health care available to the American public.

Mr. Chairman, the American Medical Association will continue to be involved in the review and public discussions of competition proposals, and we look forward to working with this and other Committees of the Congress in addressing the problems of increased health care costs.

Hepatitis B Vaccine Likely By 1982

The recently developed vaccine against hepatitis B virus is both extremely safe and highly effective, according to results presented at the recent meeting the Advisory Committee on Immunization Practices of the CDC (Centers for Disease Control.)

According to a report in the Medical News section of the Journal of the American Medical Association (November 13, 1981), this favorable outcome should spur approval of the vaccine, which is expected to become available in the spring or early summer of 1982.

Hepatitis B is an acute viral illness which can be transmitted by contaminated needles, administration of contaminated blood or blood products, or by oral ingestion of contaminated materials. For these reasons, groups at high risk for hepatitis B include homosexual men, prostitutes, drug users dialysis center personnel, transfusion recipients, and hospital personnel (especially surgeons, those who work with blood products, and laundry workers who come in contact with contaminated needles in the sheets and scrub suits they handle).

The vaccine was tested on more than 500 homosexual men with the cooperation of five clinics in St. Louis, San Francisco, Los Angeles, Chicago, and Denver. Homosexual men were selected because they have approximately a 25 per cent incidence of hepatitis B infection 20 to 30 times higher than in the general population.

Results of the clinical trial showed that 85 percent of the men vaccinated developed antibodies to the hepatitis B virus after receiving two injections one month apart and a booster injection five months later. Researchers at the CDC speculate that insufficiently potent vaccine may account for the 15 percent of vaccinated men who did not develop antibodies, citing other studies which showed that the vaccine produced immune responses in up to 99 percent of recipients.

In the months prior to expected approval of the vaccine, the CDC advisory committee will be working out questions concerning administration of the vaccine, including identifying high-risk groups and determining how best to screen persons already immune to hepatitis B viral infection.

—*New York State Journal of Medicine,* January 1982

Rape, Counseling and Confidentiality

MINDY G. WOLMAN

The psychological trauma of rape continues long after the event, often leading women to seek professional counseling. In order to ensure the free communication necessary for the success of such counseling—as in any form of psychotherapy—it is important to protect the confidentiality of the information provided to the counselor. It is surprising, then, that courts often fail to protect such information.

American courts protect the confidentiality of communications that arise within several relationships. Although this "testimonial privilege" clearly extends to doctor-patient, attorney-client, and husband-wife relationships, its extention to the various forms of psycotherapeutic relationships remains unclear. In his recent article, Alan Meisel demonstrated that the basis for granting testimonial privilege usually depends upon the professional status of the person providing therapy or other services. For example, client communications with licensed psychologists and psychiatrists are often considered privileged while those with nurses and social workers have been given little, if any, protection by most courts.

It seems odd that courts focus on the professional status of the counselor or therapist in determining the privilege of confidentiality, overlooking the functional nature of the relationship itself. Confidentiality is important in all psychotherapeutic relationships. Therefore it seems arbitrary to grant testimonial privilege to psychiatrists and psychologists, but not to psychiatric social workers and others who perform essentially the same therapeutic function.

This issue is particularly important within the context of rape counseling because such counseling is often conducted by those other than psychologists and psychiatrists. Many rape counseling centers are staffed largely by "non-professional," though licensed, counselors such as nurses and social workers, and by unlicensed counselors such as students and former rape victims. The unique nature of these counseling relationships appears to call into question the adequacy of the present scope of testimonial privilege in the law. This is especially so in light of a recent court case[1] which challenged the confidentiality that is central to the functioning of rape counseling centers.

The issue of confidentiality arose when the trial judge in a rape case subpoenaed the notes of the administrator of the Pittsburgh Action Against Rape (PAAR), a rape counseling center. The attorney for the accused rapist had requested the subpoena in order to determine whether the records contained any evidence supporting his client's innocence. When PAAR's administrator refused to submit the records, the judge held her in contempt of court. The judge asserted that the master's-level counselors involved in the case did not have the professional status deemed necessary for the justification of testimonial privilege.

Although the court held in the PAAR case that the records were not protected by absolute privilege, the court did recognize a limited privilege in which the counselors were required to submit the records to the judge. The judge would examine the records out of the presence of the defense counsel and then determine if they should be turned over to the defense. The judge indicated that the defense would have access to the records only if they had a bearing on the facts of the case, as opposed to the counseling services provided by the PAAR center.

Meisel criticizes this decision because it discourages rape victims from reporting the crime, pressing charges, and seeking counseling. To some extent this has already occurred as a consequence of the PAAR decision; the PAAR center has reported that the proportion of women seeking help anonymously (via the telephone) has doubled, with 60 per cent of the women now seeking help in this manner. In addition, some

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This article is a summary of Alan Meisel's article, "Confidentiality and Rape Counseling," *Hastings Center Report* 11(4), August 1981 pp 5-7. Alan Meisel is associate professor of law and psychiatry, University of Pennsylvania Schools of Law and Medicine.

current clients have requested that their files be destroyed. Therefore, fewer women are taking advantage of the full range of services available at the center.

Meisel also sees the decision as problematic because it unjustifiably depends upon the professional status and training, rather than the therapeutic function, of rape counselors; a woman who seeks assistance from any person who functions as a rape counselor should be guaranteed that her communications will remain confidential.

Basing testimonial privilege on function can cause problems because it is often difficult to determine which individuals are serving in a counseling capacity. Meisel notes that a rape victim's discussions with a close personal friend about the rape and subsequent problems are very similar in function to her communications with a professional counselor. The rape victim is seeking support, guidance, and perhaps advice. Can it thus be inferred that the friend is fulfilling a counseling role? If so, these communications might have to be considered confidential and privileged.

Drawing the line between privileged and other communications becomes quite difficult. Claims of privilege might extend to virtually all personal communications. If privilege were granted over a wide range of personal communications, much relevant and important evidence would become inaccessible in court proceedings. This could clearly infringe upon the defendant's right to a fair trial.

Meisel argues that it is appropriate to extend therapeutic privilege to only those situations in which "the relationship between victim and counselor [comes] into existence with the expectation of thoroughgoing confidentiality." He maintains that this would preclude the extension of testimonial privilege to communications with relatives and friends because persons do not enter into these relationships with the expectation of confidentiality. In criticism of Meisel's point of view, one might maintain that confidences to friends and relatives are sometimes made with this expectation. Indeed, this tends to penalize people for discussing traumatic events, such as rape, with those capable of giving the greatest comfort and support.

When functional criteria alone are not adequate to determine privilege, Meisel suggests several other factors to consider. These are (1) the "professional" status of the counselor; (2) the counselor's affiliation with a professional discipline having a canon of confidentiality; and (3) the legal requirements of confidentiality. He maintains that these factors can help substantiate the claim that the counseling relationship originated with the expectation of confidentiality and "that both parties are acting in good faith in claiming a privilege."

While one might reasonably disagree with some of the details of Meisel's analysis, it is clear that the traditionally narrow approach of courts to questions of confidentiality is not responsive to the human needs of victims of rape and other serious crimes.

REFERENCE

1. 49 United States Law Week 2500 (Pa. Supreme Court, February 10, 1981)

Cost of Med School Not Divisible on Divorce

A wife who puts her husband through medical school is not entitled to reimbursement for contributing to his education if the marriage ends in divorce, according to a Texas appellate court. *The Citation* (1981; 43:68-9) reports that a physician appealed that portion of a divorce decree that ordered him to pay his former wife $20,000 for her share of the expense of his education. The appellate court conceded that inequities could result from the failure to compensate the spouse who supports the other through professional school. But, it ruled that a professional education acquired during marriage was not a property right.

—*Modern Medicine,* January 1982

Right to Die

(Second of Two Parts)

Severns v. Wilmington Medical Center, Inc. et al.; **Delaware Supreme Court**
Del. Supr., 421 A2d 1334 (1980)

The Case

Mary Severns suffered irreversible brain damage in an automobile accident in December, 1979. According to medical opinion, she would never be able to resume a "sapient and sentient adult existence." Her husband, joined by her immediate family, petitioned the Chancery Court to be appointed guardian over her "person" and sought discontinuance of a respirator, removal of "certain life-sustaining" supports and a court order precluding civil and criminal liability for such actions.

Among the questions certified were those pertaining to guardianship, civil or criminal penalties resulting from the requested relief and necessary procedures should the relief be granted. The Supreme Court chose to answer only one: whether the court had the authority to grant the relief sought by the Severns. The Supreme Court divided this question into two parts: 1) Does the Chancery Court currently have the authority to appoint a guardian over the *person* of the comatose Mrs. Severns and 2) Does the Chancery Court have the power to authorize the guardian to remove the medical apparatus which helps to sustain her life?

Opinion of the Court

After five months of deliberation, the Court answered both questions in the affirmative. It held that: 1) Delaware's guardian statute granted the Court of Chancery authority to appoint Mr. Severns guardian of the "person" of his wife; 2) the statute neither granted nor denied the court's authority to grant the requested relief but it could do so because of the court's equitable authority, stating that "absence of precedent is no bar to appropriate relief;" 3) a full "evidentiary hearing" must be held by the Chancery Court to determine whether the relief asked for is warranted by the facts. Several questions were listed but no guidance was given as to what precise findings would be necessary.

Chancery Opinion on Remand from the Delaware Supreme Court

The Chancery Court held an evidentiary hearing and appointed Mrs. Severns' husband as guardian, granting him authority to act on her behalf and approving his request regarding the use of life-support measures. The Court specifically authorized that Mrs. Severns not be returned to a respirator in the event of an emergency, nor should a feeding tube be reinserted in her trachea (the husband did not seek removal of naso-gastric tube feeding), nor should antibiotic drugs be administered in the event of pulmonary infection and, finally, that a "no code blue" order should be posted on her medical chart to halt resuscitation.

Of the relief sought, only the denial of antibiotics was seriously contested by the State's Attorney General. The court excluded its use because "the patient's wish expressed through her guardian is clear. If the use of the medical process in question will not return her to a cognitive, sapient condition, she does not want it administered."

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A set of eight Fact Sheets dealing with such legal cases is available for $3.00 at the above address.

Implications

The order formalizing the Chancery Court ruling was finally issued in January, 1981. Mr. Severns had commenced legal proceedings shortly after his wife's accident which had occurred more than a year before. The emotional and financial toll exacted from a family in such lengthy procedures is incalculable. As an editorial in a Delaware newspaper is observed, "it is the absence of public policy on these matters that has placed the Severns' case in the courts."

The Delaware Supreme Court itself addressed this issue, stating that ". . . we earnestly invite the prompt attention of the General Assembly . . . with the hope that it will enact a comprehensive state policy governing these matters which are, in the words of *Quinlan,* of 'transcendent importance.' "

Mrs. Severns' attending physician testified that he would be unable to withhold life-prolonging procedures without legal protection. Mrs. Severns, as an active member of the Delaware Euthanasia Educational Council, had made clear her wishes about being maintained in a vegetative state, but she had not executed any written document. Whether her physician would have considered a Living Will as offering sufficient legal protection in these circumstances is doubtful. Without legislative guidelines, application to the courts may be the only recourse when physicians are uncertain of legal risks.

The opinion of the Delaware Supreme Court did not set any new legal precedent. The only question it addressed was whether the court had authority to grant the relief sought by the Severns and that had been answered in the affirmative by other courts in a number of jurisdictions. No specific court involvement was called for in future cases but, absent legislation, the *Severns* precedent may well cause Delaware physicians to seek court approval before agreeing to withhold or withdraw treatment from an incompetent terminal patient.

In re Spring, 405 N.E. 2d 115 (1980) Massachusetts Supreme Judicial Court

The Case

Earle N. Spring, 77, suffered from advanced senility and "end-stage" kidney disease. He was receiving five-hour hemodialysis treatment three times weekly to keep him alive. Heavy sedation was being used to overcome his resistance to treatment. His wife of 55 years and his only son requested that the treatments be stopped. Spring's physicians refused. Proceedings began in November, 1978 when the son filed a petition in probate court for appointment as conservator of his father's property. The son was appointed temporary guardian of the person in January, 1979. On the same day Mr. Spring's wife and son petitioned the probate court for an order directing that life-prolonging treatment be withdrawn. The probate judge appointed a guardian *ad litem* who later filed a report with the court. In May the probate court held an evidentiary hearing, and then entered judgment that treatment decisions were to be made by the Springs and attending physician. This decision was not effectuated because of an appeal by the guardian *ad litem,* the probate court having granted his motion to stay its own judgment.

The case went before Massachusetts' intermediate appellate court which affirmed the probate court's decision (399 N.E. 2d 493 [1979]). The opinion was handed down in December, 1979, more than a year after court proceedings had begun. Again there was a delay when the guardian *ad litem* sought and was granted review by the Massachusetts Supreme Judicial Court. Earle Spring died in April while the case was on appeal. The *Spring* case consumed nearly 15 months of hearings, appeals, reversals and stays from January, 1979 until the Massachusetts high court issued its opinion in May, 1980.

Opinion of the Court

The court upheld the earlier judgment of the probate court directing the temporary guardian not to authorize any further life-prolonging treatments.

The court took the occasion to expand on its 1977 opinion in the *Saikewicz* case (*Belchertown State School v. Saikewicz,* 373 Mass. 728, 370 N.E. 2nd 417 (1977)—*See* Fact Sheet #2). It made clear that it does not hold that judicial approval is always a prerequisite prior to withholding treatment from an incompetent patient. The court noted at least ten factors that should be taken into account in deciding whether a court order might be needed. These included the extent of the patient's mental impairment, the medical prognosis with or without treatment, side-effects, risks and extent of bodily invasion of the treatment and the family's opinions. The court was not specific as to what combination of circumstances make prior court approval necessary or desirable.

The court also said: "Whenever a physician in good faith decides that a particular treatment is not called for, there is a risk that in some subsequent litigation the omission will be found to have been negligent."

Once a probate court is properly presented with the legal question of whether treatment may be withheld, it cannot delegate the decision-making responsibility but must make the decision itself as to whether treatment can be terminated, including a determination as to what the patient would want if competent ("substituted judgment" standard).

Implications

The court acknowledged awareness of the "fearful strain" on Mr. Spring's family imposed by the lengthy judicial process and it stressed the desirability of "expediting such cases." However the justices reaffirmed *Saikewicz,* stating that "again we disapprove shifting of the ultimate decision-making responsibility away from the duly established court of proper jurisdiction."

When future cases come before the Massachusetts courts, the entire adversary process will come into play, including appointment of guardians, evidentiary hearings to consider medical findings and the like.

The court did declare that not all life-and-death treatment decisions for incompetent patients need come before the courts, but considerable uncertainty remains as to what kinds of cases need prior judicial approval. In the final analysis, termination life-prolonging treatment may depend on whether the physician fears legal risks and desires the legal immunity of court approval.

In re Eichner (Fox), 52 N.Y. 2d 363 (1981) — New York Court of Appeals

The Case

Brother Joseph Fox, an 83-year-old member of a Marianist Order, lapsed into a coma in October, 1979 during an operation. Neurologists concurred that he was in a "permanent vegetative state." A request to remove a respirator was denied by hospital officials and physicians. His superior, the Rev. Philip K. Eichner, initiated proceedings in a trial court to obtain judicial approval for withdrawal of the respirator.

The trial court (*In re Eichner,* 102 Misc. 2d 184) gave its approval based on the patient's "hopeless" condition and relying on his common law right to decline treatment. The trial judge stated that evidence of Brother Fox's opposition to the use of a respirator to maintain him in a vegetative state was uncontroverted: he had expressed his views publicly within the context of the religious community's discussion of *Quinlan* and had reiterated them prior to his own surgery.

Treatment was continued pending an appeal by the district attorney to the first appellate level. Brother Fox died in January, 1980 of congestive heart failure. The case eventually reached the Court of Appeals for a resolution which was handed down in March, 1981.

Appellate Opinion

The Appellate Division of the New York Supreme Court (*In Re Eichner* (Fox), 73 A.D. 2d 431]2nd Dept., 1980]) also ruled that Father Eichner was entitled to the relief sought. However, it modified the trial court in certain significant aspects:

1) The Appellate Division not only upheld the patient's right to decline treatment as guaranteed by common law but also reached the Constitutional "right of privacy" protection of that right, stating "As a matter of

constitutional law, a competent adult who is incurably and terminally ill has the right . . . not to resist death and to die with dignity."

2) The Appellate Division found that if such a right was not lost when a person became incompetent and even if such a person has not made his wishes clearly known while competent, this right could be exercised on his behalf.

   (The trial judge had rejected any attempt at "substituted judgment" because decision-making efforts by others become "ritualistic exercises, necessarily doomed to failure.")

3) The Appellate Division acknowledged that treatment refusal is made easier when a patient has unequivocally expressed his desires before becoming incompetent, but "this will only occur in a minority of cases." The court adopted the position that should "substituted judgment" become necessary there would be no need for the "neutral presence of the law." This is similar to the position of the Massachusetts high court and contrasts with New Jersey in *Quinlan.*

   The New York court set forth the following procedures to be followed:

   1. Certification by attending physicians that the patient is terminally ill and in an irreversible, permanent or chronic vegetative coma.
   2. Confirmation of the diagnosis by a hospital committee of at least three physicians.
   3. If there is medical confirmation, judicial proceedings can then be instituted for permission to withdraw life-sustaining measures. A guardian *ad litem* is appointed to protect the patient's interests.
   4. The attorney general and appropriate district attorney must be notified and they can, if they deem necessary, have physicians of their choosing examine the patient.

Persons permitted by the court to initiate proceedings on behalf of the patient can be a member of the patient's family or someone having a "close personal relationship with him" or an official of the hospital in which he is a patient.

To gain statewide legal recognition of these guidelines the district attorney decided to take the case to the New York Court of Appeals.

Opinion by the Court of Appeals

In its opinion, issued March 31, 1981, the Court of Appeals refused to promulgate elaborate procedures to be followed in future right-to-die cases. It stated that "Unlike the Legislature, the courts are neither equipped nor empowered to prescribe substantive or procedural rules . . . Our role, especially in matters as sensitive as these, is limited to resolving the issues raised by facts presented in particular cases."

The Court of Appeals approved the Appellate Division's decision to authorize the petitioner to direct discontinuance of the use of a respirator but it did so on the grounds of "clear and convincing evidence" that the patient had no desire to have his life prolonged by life-sustaining procedures if there were no hope of recovery. Thus, the Court of Appeals agreed with the trial court that relief should be granted because of the common law right of bodily self-determination. The Court of Appeals refused to address the constitutionally-based privacy doctrine.

The Court of Appeals established a standard of proof for future cases—a standard which "forbids relief whenever the evidence is loose, equivocal or contradictory." The patient must be diagnosed as fatally ill with no reasonable chance of recovery and there must be "clear and convincing evidence" that a now incompetent patient had previously provided instructions to have treatment terminated should he be irreversibly ill.

The court's standard was applied immediately in a companion case decided in the same opinion (*Matter of Storar,* 78 A.D. 2d 1013 [4th Dept., 1980]). *See* Fact Sheet No. 8.

Implications

Eichner (Fox) is noteworthy because the petitioner was a priest of a Roman Catholic religious order and the patient was a member of that order. Father Eichner's request to disconnect the respirator was in accordance with the Church position that no one should be held to "extraordinary" means to prolong life.

In its findings, the Court of Appeals rejected the mandatory judicial procedure set forth by the Appellate Division which could have involved as many as six physicians, five attorneys, a judge and concomitant delays and expense. The court expressed its reluctance to lay down general rules because, unlike the legislature, the courts are neither "equipped" nor "empowered" to do so.

The court's acknowledgment that Brother Fox could be removed from the respirator is consistent with prevailing case law, but its legal reasoning differs significantly. It refused to rule on the privacy issue because it is a "disputed question" that the Supreme Court of the United States "has repeatedly declined to consider." End-of-life decisions cannot be made by others using the standard of substituted judgment.

Instead the court drew upon the individual's common law right to refuse treatment, calling for "clear and convincing" evidence of a prior expression of intent on the part of the incompetent patient.

The court was not specific as to what form this evidence could take. Brother Fox had, by chance, articulated his views orally in discussions of the Quinlan case. A written directive, such as a Living Will, is the most widely recognized means by which an individual can throughtfully express his or her intent.

In re Storar, 52 N.Y. 2d 363 (1981) New York Court of Appeals

The Case

John Storar was a 52-year-old profoundly retarded man dying of bladder cancer. He had resided in a state facility for many years. His mother, who visited him daily, had been appointed his legal guardian to give consent to radiation treatment. Subsequently, he required frequent blood transfusions which she first agreed to and later refused to consent to on the grounds that the transfusions were causing him pain and only prolonging his discomfort. Hospital officials instigated court action to obtain authorization to continue treatment.

Opinion of Lower Courts

The trial court (106 Misc. 2d 880 [1980]) ruled that the transfusions could be discontinued since the patient's condition was incurable and the transfusions, which were causing distress to the patient, could not affect the final outcome. The court found that a person has a right to determine what will be done with his own body and, when he is incompetent, that right may be exercised by another on his behalf. John Storar's mother, the court said, was the person in the best position to make such a substitute judgment.

The appellate division affirmed this opinion in a brief memorandum. Treatment was continued pending resolution by the New York Court of Appeals.

Opinion by Court of Appeals

The Court of Appeals reviewed the cases of Mr. Storar and Brother Fox (*In re Eichner*) simultaneously. Both men had died, but the court held that the cases were not moot because both involved underlying issues of public importance.

The court agreed with the Appellate Division's ruling that Brother Fox could be removed from the respirator (*See* Fact Sheet #7) but reversed the lower court's decision regarding Mr. Storar.

The Court of Appeals held that Mr. Storar had been incompetent during his entire life. Unlike Brother Fox, he had never made a reasoned decision regarding his preference for medical treatment. Absent the patient's own declaration on the matter, such a judgment could not be exercised by a surrogate.

The court compared the situation to that of an infant child and held that not even the parent may deprive the child of life-saving treatment, regardless how well-intentioned. It found that the transfusions were analogous to food and concluded that, while they could not cure the patient's cancer, they could eliminate his risk of death from the treatable condition of loss of blood. With the transfusions, the court said, Mr. Storar "was essentially the same as he was before, except of course he had a fatal illness which would ultimately claim his life." The court reaffirmed the right of the State, as *parens patriae,* to protect the health and welfare of an incompetent patient.

Implications

In the state of New York, the court has specifically excluded the possibility of proxy decisions being made on behalf of an incompetent patient, whether on the "reasonable basis" standard applied by the New Jersey Court in

Quinlan (Fact Sheet #1) or on the basis of "substituted judgment," the standard of the Massachusetts court in *Saikewicz*. (Fact Sheet #2)

The court limited itself to the application of common law principles. In *Eichner,* it extended the common-law right to refuse treatment to encompass a patient's declaration expressed while competent. In *Storar,* the patient had never been competent and therefore his own views had not been established. The court declined to explore what the patient might have wanted if he could have made a rational decision. It relegated its opinion to the common law rule that a parent or guardian can only act for the benefit of the ward, and the State, as *parens patriae,* may inject its concerns for keeping the patient alive. The *Storar* decision is the only major decision of a highest court to order the continuance of a disputed treatment.

The approach of the Court of Appeals in the comparison cases of *Eicher* and *Storar* strongly suggests that New York residents would be well-advised to execute Living Wills as a clear expression of their carefully considered intent. If a person is executing a Living Will in extreme circumstances, it would probably be advisable to have proper attestation as to the person's competence.

The court offered no guidance for those cases where there is no prior evidence as to the patient's wishes or where the patient was never competent and where a question of terminating treatment is in dispute. For example, the court made no attempt to distinguish characteristics of disputed treatments that could justify their termination. In Mr. Storar's case, it compared the need for transfusions to that of a child who may bleed to death because of a parent's refusal to authorize a blood transfusion (*Jehovah's Witnesses v. Kings County Hospital Unit,* 278 F. Supp. 488 [1967], although the outcome of Mr. Storar's condition was predictable and the transfusions themselves were contributing to his discomfort.

The opinion stated that any procedures for legal approbation involving discontinuance of life-sustaining procedures for incompetents should be established by the legislature.

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Month in Washington

The American Medical Association's seven-year battle against the Federal Trade Commission on the issue of physician advertising ended in a draw before the Supreme Court.

The 4-4 tie vote on the historic case leaves standing a lower court decision upholding the FTC.

The brief "per curiam" order, with Justice Harry Blackmun abstaining from the case, did little to settle the large legal questions raised in the AMA's appeal. Justice Blackmun did not participate, apparently because he had represented medical societies in the past.

As a consequence, the 1980 decision by the U.S. Court of Appeals in New York upholding the FTC's order against the AMA is left standing. The Supreme Court decision said simply: "The judgment is affirmed by an equally divided Court."

"The AMA is disappointed by the Supreme Court decision that failed definitively to resolve the important issues raised by the FTC's attempt to regulate the medical profession," said Joseph F. Boyle, M.D., AMA Board Chairman. "This has been a long drawn-out case stretching over seven years. The AMA had hoped that the Supreme Court would decide the important issues itself. It may now be appropriate for Congress to consider the issues the Court failed to resolve and to clarify the law."

The AMA's appeal to the high court concerned an FTC order relating to the promulgation and enforcement of ethical guidelines in physician advertising and solicitation and physicians' contractual relationship with HMO's and group prepaid plans. A split decision by the U.S. Supreme Court means that no opinion is written, the names of the Justices who voted on either side are not disclosed and the decision of the U.S. Court of Appeals for the Second Circuit (N.Y.) is allowed to stand.

The New York Court's Appeals Panel by a two to one vote in 1980 upheld the FTC's 1979 order barring medical associations from interfering with physicians' attempts to advertise.

The legal issue arose in 1975 when the FTC filed a complaint against the AMA, the Connecticut State Medical Society and the New Haven County Medical Association charging that their principles of ethics forbidding false and misleading advertising were a restraint of trade. Cited by the FTC was a 1975 court decision that for the first time strictly applied the antitrust statutes to professional associations in a case involving the Virginia Bar Association and minimum fees.

The American Dental Association, which supported the AMA's position, was also affected by the Supreme Court decision, since it has agreed to abide by the rules set out by the FTC in the AMA case.

As a result of the high court's tie vote, the original FTC order remains in effect. Under the FTC's order, the AMA can not involve itself in any way with the advertising practices of physicians unless they are clearly false and deceptive. The position of the AMA has not been that dissemination of fee information and other non-deceptive information which will help enable patients to make an informed choice among competing professionals is ethical, but that misleading promotional practices, described as "solicitation," are unethical.

The Supreme Court heard arguments on the case last January. The AMA urged the justices to rule that the FTC doesn't have the power to interfere with ethical standards propounded for a professional association.

The AMA's warnings to the FTC of the impact of improper advertising on patients went unheeded, said AMA counsel Newton Minnow of Chicago. "Why should the government try to stop guidelines intended to protect and benefit the public?" he asked.

In its appeal to the Supreme Court, the AMA said the case is of "enormous importance" because it allows the government "to prevent professionals who have voluntarily associated together from taking a position against promotional practices which they believe to be deceptive."

The high court's decision had not been expected until July, but when it became clear the Court was deadlocked on the issue, and that there could be no final, definitive opinion, the Justices decided to dispose of the case with the one sentence statement.

The AMA also had argued that the FTC doesn't have the legal authority to move against non-professional associations such as the AMA because Congress has carefully limited the agency's jurisdiction to profit organizations.

The AMA advertising case has been regarded as a leading test of the federal antitrust powers in the health field, a burgeoning legal area with scores of cases at the lower court level. Hopes that the Supreme Court would cast definitive legal guidelines and clear up much existing confusion were dashed by the Justices' failure to reach a majority decision.

Legislation has been introduced in the Congress that would weaken the FTC's authority. In the House, 170 representatives are co-sponsoring a bill (H.R. 3722) by Reps. Tom Luken (D-OH) and Gary Lee (R-NY) that would impose a moratorium on FTC actions against state-regulated professional associations or their state

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Prepared by the Washington, D.C.
Office of the American Medical Association

and national nonprofit associations. A Senate measure (S. 1984) reauthorizing the FTC contains provisions exempting state-regulated professions from the scope of the FTC jurisdiction.

* * * *

A basic restructuring of federal programs is required to solve the nation's health problems, the AMA has told Congress.

Calling for a "new course" setting priorities for the future rather than "quick-fix expediency," the AMA declined to take a position on the Administration's proposed budget cuts for Medicare.

"We believe that addressing individual items in particular programs does not provide the direction and leadership necessary to chart a course for the delivery of health care in this country for this and future decades," said Daniel Cloud, M.D., AMA President.

Accompanied by Fred Rainey, M.D., Chairman of the AMA's Council on Legislation, Dr. Cloud addressed both the House Ways and Means Health Subcommittee and the Senate Finance Committee in March on hearings concerned with Administration proposals to reduce Medicare/Medicaid expenditures. The two committees are charged with preparing estimates for the first budget resolution due in May.

Here are excerpts from the testimony of the two AMA spokesmen:

"—It is now time to step back from the pattern of looking at individual program budgets and attempt to place in perspective the role of the federal government in financing and delivering medical services in the future. Now is the time to set priorities for the future and not continue to deal with crises on an annual basis."

Outlining to the lawmakers the sweeping new AMA policy, the spokesmen said the AMA intends to take the initiative to evaluate long-term health policies that will provide proper case for our citizens within the available national resources. "The AMA will hand down recommendations on both long-term and short-term health care problems.

"—There should be no sacred programs—a primary goal should be meeting the needs through governmental resources of those not able to provide for themselves."

"—The answers to our health problems are not to be found in arbitrary caps, in inequitable benefit reductions, in arbitrary cost shifting or in quick fix expediency —solutions will be found only when all interested parties participate in a basic restructuring of federal programs.

"—A first step might be to place health matters within a distinct Department of Health, both at the federal and state levels—health care is too important to be placed within a cabinet department that has a major share of its activity devoted to welfare.

"—The AMA is committed to an economy characterized by strong, real growth and reaching this goal is necessary to ensure a quality living standard for everyone," the AMA witnesses said.

Some 20 health related and insurance organizations appeared before the House and Senate committees, each limited to a five minute oral presentation. Most of the witnesses and a number of representatives and senators were hostile to the Administration's proposal for a flat two per cent across-the-board cut in Medicare hospital reimbursement.

* * * *

The federal health planning program is a classic example of the pitfalls encountered in a federal regulatory approach to dealing with local problems, the AMA has told Congress.

The program has failed and should be wiped from the statute books, said Fred Rainey, M.D., Chairman of the AMA's Council on Legislation. Dr. Rainey told the House Commerce Subcommittee on Health that not only should funding be terminated but the law must be repealed. Otherwise, he noted, states would have to continue Certificate-of-Need (CON) programs or face federal sanctions including the cutting-off of public health funds.

Planning has been unpopular and controversial from the start seven years ago, Dr. Rainey said. The program overrides the special needs and circumstances of states and localities, imposes a network of bureaucratic entities, carries excessive and expensive paperwork requirements, and shifts policies and directions so frequently "that those who want to comply with the law are continually uncertain of their opportunities and obligations," the AMA official testified.

The subcommittee, headed by Rep. Henry Waxman (D-CA), is considering the Administration's proposal to terminate funding for planning and counter-proposals to keep planning alive.

Dr. Rainey said that as planning evolved over the years, federal officials became less concerned with the original goal of "access to quality care," and more concerned with cost reduction. However, the program has also failed in this regard, he said. There is evidence that the certificate-of-need process actually adds to health care costs "because of the expense of preparing CON applications and appealing negative CON decisions and the greater costs of construction resulting from delays in the CON process," he said.

Another AMA witness, Lonnie Bristow, M.D., a member of the AMA Council on Medical Service, said new voluntary health planning initiatives are emerging that "are intended to address community needs and are supported by the community."

State Health Legislation: 1981

Selected Highlights of Recently Enacted State Legislation

AMERICAN MEDICAL ASSOCIATION

Podiatry

Citing its belief as to the inadequacy of the current number of postgraduate clinical training positions available to graduates of California schools of podiatric medicine and its feeling that it is "in the public interest and to the benefit of the state to assist in increasing the number of postgraduate clinical training programs" available to graduates of such schools, the *California* legislature has enacted a law announcing its intent to provide for a program to increase the number of such residencies sufficiently that "all able and qualified graduates of California schools of podiatric medicine have the opportunity to avail themselves of such training."

The statute proceeds to announce the further intent of the legislature to supplement such program, "after its purpose has been realized, with subsequent legislation mandating one year of postgraduate clinical training as a condition for issuance of a certificate to practice podiatry."

The statute further requires the State Podiatry Examining Committee to approve programs of supervised clinical residency training for persons who are applicants for or who have been issued a certificate to practice podiatry. It sets 100 as the maximum number of training positions to be made available in the approved podiatric residency programs.

Another *California* law, passed nine days after A.B. 725, requires that, on and after January 1, 1983, each applicant for a certificate to practice podiatry must, as a condition for issuance of such certificate, show satisfactory completion of one year of approved postgraduate podiatric surgical training in a general acute care facility.

This statute, in another section, also revises the subjects to be covered in the examination for a podiatry certificate by deleting the subjects of syphilis and hygiene and by adding the subjects of public health and medical ethics.

Abortion

Illinois law now provides for criminal and civil penalties where a physician performs an abortion procedure in a willful and wanton manner upon a woman who is not pregnant at the time such abortion procedure is performed. Senate Bill No. 940 authorizes civil money damages equal to three times the amount of proved damages where "any person" in a willful and wanton manner, performs *or attempts to perform* an abortion procedure upon a woman who is not pregnant, whether or not such abortion is a crime. Senate Bill No. 939 provides that any physician who performs an abortion procedure in a willful and wanton manner upon a woman who is not pregnant shall be guilty of a Class 2 felony. Senate Bill No. 939 also establishes additional penalties where a physician is convicted of such crime. For example, the physician shall be prohibited from providing medical assistance to anyone eligible therefor under the Public Aid Code, and shall be removed automatically from the list of physicians qualified to participate as a vendor of medical services under the state medical assistance program. Also, where upon complaint, investigation and hearing by the Department of Registration and Education, it is found that a physician performed an abortion procedure in a willful and wanton manner upon a woman who was not pregnant, the license of the physician to practice medicine in Illinois will be automatically revoked.

Another *Illinois* law provides that a husband shall not be liable for expenses incurred by his wife when an abortion is performed on the wife without her husband's consent, unless the physician who performed the abortion certifies that it was necessary to preserve the woman's life. The Act also provides that no parent shall be liable for expenses incurred by a minor child when an abortion is performed without parental consent, unless there is a physician's certification that the abortion was necessary to save the minor child's life.

Nebraska law provides that no physician shall perform an abortion upon a minor unless twenty-four hour actual notice is given to one of the parents, or the

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legal guardian, of the minor. The Act provides, however, that the notice requirement may be satisfied by sending notice by certified mail to the last-known address of the parents or legal guardian as indicated by the minor, at least forty-eight hours prior to the performance of the abortion. The Act provides for a total waiver of the notice requirements where a judge is persuaded "by the affidavit or testimony of the petitioning minor that the minor is mature enough to make the abortion decision independently or that notification would not be in the minor's best interests . . ." The notice requirements of the Act are inapplicable when an emergency situation posing an immediate threat and grave risk to the life or health of the pregnant minor exists. Finally, the Act states that it constitutes unprofessional conduct for a physician to perform an abortion upon a minor without having satisfied the above-described notice requirements, or for a physician to perform an abortion "under circumstances when he or she will not be available for a period of at least forty-eight hours for post-operative care unless such post-operative care is delegated to and accepted by another physician."

In the recent reenactment of the *Louisiana* abortion statute, a new section was added, expressing the legislative intent of the *Louisiana* legislature with respect to abortion. It states that the legislature intends to regulate abortion to the full extent permitted by U.S. Supreme Court decisions. The legislature reaffirmed the long-standing policy of *Louisiana* that the unborn child is a human being from the moment of conception and is entitled to the right to life as guaranteed by the Constitution. The section further states that, if the U.S. Supreme Court decisions permitting abortion are ever reversed or if the U.S. Constitution is amended to outlaw abortion, the former policy of *Louisiana* to prohibit abortions will be enforced. Among the new provisions in the reenacted sections are the following: Any physician who performs or induces an abortion must perform an ultrasound test in order to facilitate the determination of the state of development of the unborn child, and any abortion performed or induced after the first trimester of pregnancy must be performed or induced in a licensed hospital.

Blood—Immunity Regarding Transfusions and Transplants

Louisiana law grants immunity to physicians, hospitals and others "in the screening, processing, transfusion, or medical use of human blood and blood components of any kind and the transplantation or medical use of any human organ, human tissue, or approved animal tissue which results in transmission of viral diseases undetectable by appropriate medical and scientific laboratory tests."

Chiropractic

Colorado has enacted legislation authorizing the rendering of chiropractic care under the terms of its Workmen's Compensation Act.

Nevada has enacted legislation permitting an applicant for a license to practice chiropractic who has satisfied all of the qualifications for licensure, except for passage of the licensure examination, to "while waiting to take the board's examination but for no longer than two years, perform chiropractic, but not including manipulation, under the direct supervision of a chiropractor who is professionally and legally responsible for the applicant's performance."

Another *Nevada* statute provides for the issuance of a certificate as a "chiropractor's assistant." The statute permits a chiropractor's assistant to perform such ancillary services relating to chiropractic as he is authorized to perform under the terms of a certificate issued to him by the State Board of Chiropractic Examiners. The ancillary services may not encompass chiropractic adjustment and must be rendered under the supervision and control of a licensed chiropractor.

The statute provides that the State Board of Chiropractic Examiners shall specify the formal training, which must include at least 12 months of study or the equivalent, which an applicant for a certificate as a chiropractor's assistant must have completed before the Board awards him such a certificate.

The statute further provides that no chiropractor may employ more than two chiropractor's assistants at the same time.

Still another *Nevada* statute provides that if any individual or group policy of health insurance or any contract for hospital or medical service provides coverage for treatment of an illness which is within the authorized scope of practice of a qualified chiropractor, the insured is entitled to reimbursement for treatments rendered by a licensed chiropractor. Further, the terms of the policy cannot limit coverage for treatments by a chiropractor to a number less than for treatments by physicians.

"Guilty But Mentally Ill" Plea or Finding

Illinois law has been amended to recognize the concept of "guilty but mentally ill" as an alternative plea or finding in criminal proceedings. "Mentally ill" is defined in the Act as "a substantial disorder of thought, mood, or behavior which afflicted the person at the time of the commission of the offense and which impaired that person's judgment . . .", but not to the extent of rendering that person legally insane. Where a defendant is adjudged to be guilty but mentally ill, "the court may impose any sentence upon the defendant which could be imposed pursuant to law upon a defendant who had been convicted of the same offense without a finding of mental illness." However, regardless of the sentence imposed, a program must be developed for the treatment of the defendant's mental illness.

Medical Licensure: Medicare Assignment Inquiry

Florida law provides that when applying for licensure or renewal of licensure as a physician, osteopath or chiropractor, such individual must respond to the question of whether or not he or she will accept Medicare assignment for services to patients eligible for Medicare reimbursement. A list of all licensed physicians, osteopaths and chiropractors who will accept Medicare assignment is then compiled and made available to the public upon request.

Medical Malpractice

A *California* law gives trial courts the power to order a party or the party's attorney, or both, to "pay any reasonable expenses, including attorney's fees, incurred by another party as a result of tactics or actions not based on good faith which are frivolous or which cause unnecessary delay." The statute requires that the court order imposing expenses be in writing and recite in detail the conduct or circumstances justifying its issuance. (This statute is not limited to medical malpractice actions.)

Midwifery

New Hampshire has enacted legislation providing for the certification and registration of lay midwives in the state. The law establishes an advisory committee to develop standards for the registration of lay midwives.

Multiphasic Health Screening

A *Colorado* law contains portions of an AMA model bill, including a provision granting immunity to persons who receive an unsolicited referral arising from a test performed by a multiphasic health screening unit.

Professional Corporations

A recent *California* statute authorizes registered nurses to form professional corporations and to render nursing services in the name of a corporation. It also amends prior law and now permits physicians and surgeons, podiatrists, psychologists, and optometrists, as well as registered nurses, to be shareholders in such a nursing corporation, or in a medical corporation, podiatry corporation, or psychology corporation.

CLASSIFIED

CONVENIENT COUNTRY HOME—4.81 acres, pond: main level: large kitchen, LR/fpl, 2 bedrooms, 2 bathrooms; lower level: finished rec room, bedroom, screened slate patio; 2-car saltbox gar/studio loft. Taxes $802.30. Near lake, schools, 79 mi NYC. $155,000. V.F. Mitchell, P.O. Box 218, Sherman, CT 06784. 203-354-8991.

FOR SALE: Toshiba Portable X-Ray: 100 K.V. (1977). Spencer Binocular Microscope; Hamilton Exam Room Set. Call: 222-1119.

PRIME, FULLY-EQUIPPED, modern office space for sublet part-time in medical complexes adjacent to Meriden-Wallingford Hospital and also Middlesex Memorial Hospital. Call: 634-0055.

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COUNCIL MEETING

Wednesday, March 24, 1982

Attendance

Present were: Drs. Canzonetti, Parrella, Doctor, Backhus, Mendillo, Sadowski, James, Hess, Friedberg, Van Syckle, Abbot, Petrie, Jameson, Rubinow, Concannon, Freedman, Barrett, Zlotsky, Orphanos, Beck, Kaess, Sweet, McDonnell, Czarsty, Bobruff, Sonnen, Hayes and Callan.

Also present: Mr. Norbeck, Mrs. Lindquist, Mr. Sweeney, Mr. Brunell, Mr. Fiorentino and Mr. Tomat (FCMA).

Absent were: Drs. Hecklau, Whalen, Jr., Anderson, Ragusa and Seide.

Prior to the discussion of the minutes, Council Chairman Guy W. Van Syckle, M.D., introduced Richard Sweet, M.D., as the new Associate Councilor from Windham County.

Approval of Minutes

It was VOTED to approve of the minutes of the meeting of February 4, 1982, as published and distributed.

Report on State and Federal Agencies

Dr. Hess reported that the Board of Directors of the South Central Connecticut Health Systems Agency, in Woodbridge, would be meeting March 25, 1982 to formalize their acceptance of the HSA consolidation plan "New Arrangements for Health Planning in Connecticut." He called upon Mr. Fiorentino to comment about the current state and federal health planning scene. Mr. Fiorentino briefly summarized his "Report on CSMS Monitoring of Planning and Regulatory Agencies," which had been included in the Council's call to the meeting.

Report of the President

President Canzonetti apprised the Council of the Supreme Court decision on March 23, 1982, which affirmed the Court of Appeals decision in the Federal Trade Commission case against the AMA, CSMS and NHCMA. Dr. Canzonetti explained that the vote was 4-4 and that the Court will not issue an opinion in the case. CSMS legal counsel, Attorney Linda Randell, will keep abreast of the matter and advise the Council of any pertinent developments.

President Canzonetti also discussed the recent hearing held by the Executive and Legislative Nominations Committee considering the appointment of F. Bernard Forand as chairman of the hospital cost commission. Dr. Canzonetti mentioned that he had testified as an individual and not as a representative of the Connecticut State Medical Society. Because of erroneous reports which appeared in the newspapers, letters from Dr. Canzonetti had been hand delivered to the committee members pointing out that his testimony was not the position of CSMS.

Correspondence from Dr. Charles Polivy

After discussion of Dr. Polivy's letter, which expressed concern over recent Department of Health & Human Services proposals to achieve a reduction in health care expenses, it was VOTED to receive his communication as information and to forward a copy of the Council's action to Dr. Sidney Cramer, Chairman, Peer Review Committee.

Resolution from Committee on Third Party Payments

After discussion and a few minor amendments, the following resolution, recommended by the subject committee, was approved by the Council:

> RESOLVED: That the Connecticut State Medical Society vigorously support the proposition that Third Party Payors reimburse for medical care equitably based on the appropriateness of the service rendered, appropriate guidelines and criteria, and not based on the site in which the medical care is delivered.

Report of Subcommittee on Preliminary Study of Nominations

With several amendments, it was VOTED to approve the report of the Subcommittee and to transmit a complete slate of nominees to the House of Delegates for election, with Council recommendation for approval.

Legislative Review

Isadore H. Friedberg, M.D., Chairman of the Committee on Legislation, discussed some of the important legislative bills in the Connecticut General Assembly this session. He mentioned that the "definition of death" bill had received a joint favorable recommendation from the Public Health Committee; and also discussed the bill increasing the state's jurisdiction over nourishment and life-sustaining medical care for seriously ill and retarded newborns, and a HMO bill which would allow for-profit HMO's in Connecticut. Jerome Bobruff, M.D., discussed his opposition to the HMO bill, and Dr. Friedberg reported the CSMS Committee on Legislation had voted recently to oppose the legislation.

Committee on Mental Health

After discussion, it was VOTED to refer back to the Committee on Mental Health its report regarding Third Party Payor coverage of psychiatric care pending further financial and peer review information.

Health Care Coalition

Following discussion of the AMA Coalition for Health Care and the possibility of establishing a similar coalition in Connecticut, it was VOTED to refer the matter to the Committee on Statewide Medical Planning for consideration.

Jail Health Care Accreditation

It was VOTED to endorse the continuation of the Jail Health Care Accreditation program and to participate in the program at the appropriate time.

Appointment to State Commission on Medicolegal Investigations

It was VOTED to recommend the name of W. Raymond James, M.D., Essex, to Governor William O'Neill for appointment to fill the vacancy on the State Commission on Medicolegal Investigations created by the resignation of Vincent D. O'Neil, Newington.

Life Members

The names of new life members were presented to the Council for information and are as follows:

Leo H. Berman, M.D., 17 Otter Trail, Westport (F) - 1/1/82
Norton G. Chaucer, M.D., 3 Carysfort Road, Ocean Reef Club, Key Largo, FLA (NL) - 1/1/82
Camille H. Huvelle, M.D., Peck Road, Torrington (L) - 1/1/82
Benjamin Katzin, M.D., 30 Peck Road, Torrington (L) - 1/1/82
Frank S. Marino, M.D., 60 Gillett Street, Hartford (H) - 1/1/82
Katharine H. Martin, M.D., 108 Butternut Lane, Watertown (L) - 1/1/82
Eric Twachtman, M. D., Plains Road, Essex (M) - 1/1/82

Ayr Insurance Company

Mr. Norbeck apprised the Council of a letter received from Mrs. Elsie Ayr advising the Connecticut State Medical Society that the Ayr Insurance Agency had been sold to the Lester L. Burdick Agency of Boston, Massachusetts. The Burdick Agency administers the group accident and health insurance for the Massachusetts Medical Society, the Rhode Island Medical Society and numerous other medical groups. The same group underwriter, Commercial Insurance Company, Newark, New Jersey, Continental Insurance Company, will serve CSMS physicians and all policies held by member physicians will remain the same. It was VOTED to endorse the Lester L. Burdick Agency.

Membership

Isadore H. Friedberg, M.D., reported that CSMS has been having a good response to its promotion of Student Membership and Postgraduate Physician Membership and that letters had been directed to all medical students and residents apprising them of the new membership opportunity in the Connecticut State Medical Society.

Next Meeting

The next meeting of the Council will be held on Thursday, May 6, 1982.

N.B.: *The foregoing is a summary of the proceedings and actions of the Council on March 24, 1982. Detailed minutes of the meetings are on file at 160 St. Ronan Street, New Haven, for perusal by any interested member of the Society.*

PHYSICIAN PLACEMENT SERVICE

The Society maintains the Physician Placement Service as a service to the medical profession in Connecticut. Opportunities for physicians to locate in Connecticut will be published as space permits and will be distributed to physicians making inquiries of such opportunities. Information should be sent to 160 St. Ronan St., New Haven, CT 06511 (203-865-6822).

Physicians wishing to establish practice in Connecticut are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.

OPPORTUNITIES FOR PRACTICE

(If no name is listed, contact the Physician Placement Service for more details.)

MULTI-SPECIALTIES

300 Main Street, Bristol, CT. Health Care Group re-organizing. Seeking Internal Medicine Practioner (endocrinology diabetes) Ear, Nose & Throat, Neurologist to set up independent practice in an established health care facility. Facility is group owned and presently includes Radiologists, Pediatricians, Surgeons, Optometrists and a Clinical Laboratory. Contact: Dr. Herbert Glass, 589-2112.

DERMATOLOGY

For sale—established Dermatological practice central Connecticut —Doctor retiring. Write: CSMS, DERM/PNB.

EMERGENCY MEDICINE

Community general hospital located in central Connecticut seeks part-time physician or locum tenens to work in busy Emergency Dept. Send curriculum vitae in confidence to: P.O. Box 486, Meriden, CT 06450.

EMERGENCY PHYSICIAN. Norwalk Hospital, in Connecticut, a regional community health resource is seeking a physician experienced in emergency care, preferably emergency residency trained. We are an active service including advanced mobile emergency life support personnel. Separate primary care facility, a full range of equipment and specialty physician support. Major affiliation with Yale University. Compensation commensurate with qualifications and experience. Please send curriculum vitae in confidence to: Melvin Orlins, M.D., Chief, Emergency Department, Norwalk Hospital, Norwalk, CT 06856. An Equal Opportunity Employer M/F/H.

FAMILY PRACTICE

Established thriving practice in Family Medicine in Stamford, CT. Colonial building on the main street in a residential section with 900 sq. ft. office space, two bedroom apartment upstairs, paved parking for eight cars. All equipment, records of about 2,000 active patients and supplies included in the sale of the property. For further details write, P.O. Box 4115, Stamford, CT 06907.

Busy solo family practice including building with office and apartments. Center of West Haven. Plan to retire by 10/1/82. Call John Chasnoff, M.D., West Haven, (203) 934-1115.

Physicians wanted for Convenience Clinic in West Haven. Family practice or Emergency Room experience preferred. Hourly rate. Send curriculum vitae to CSMS, FP/WHMS or call 932-8200.

Family practice group seeks locum tenens for month of July, 1982. Farmington area. Please call 677-9624.

OPHTHALMOLOGY

OPHTHALMOLOGIST—excellent opportunity for practice in a suburban area of Hartford. Multi-specialty referral base in large medical building. City hospitals all affiliated with University of Connecticut Medical School. Write: CSMS, OPHTH/RJG.

PHYSICIANS WISHING TO LOCATE IN CONNECTICUT

FAMILY PRACTICE

Aug. '82. Age: 26. FLEX. AB elig. MD, McMaster University; Int. and Res., Northridge Hospital Medical Center. Group practice preferred. Write: Leslie-Lynn Pawson, M.D., Family Practice Center, Northridge Hospital Foundation, 18406 Roscoe Blvd., Northridge, CA 91325.

July '82. Age: 29. Presently in residency practice. Nat'l bds. AB elig. MD, University of Pittsburgh; Int. and Res., Shadyside Hospital Prefers group practice. Write: Walter H. Wahl, M.D., 434 S. Fairmount St., Pittsburgh, PA 15232.

INTERNAL MEDICINE

July '82. Age: 30. Nat'l bds. AB cert. MD, Georgetown University; Int., Northshore Hospital, NY; Res., University of California at Davis. Prefers small to medium size group practice. Write: Roger M. Kligler, M.D., 60 Church St., Little Falls, NY 13365.

CARDIOLOGY. July '82. Age: 30. Nat'l bds. AB cert. MD, Int., Res. and Fellowship, Emory University. Solo, group, or assoc. practice preferred. Is interested in a position including both invasive and non-invasive aspects of Cardiology. Write: William E. Story, M.D., 1295 Victor Road, Atlanta, GA 30324.

GASTROENTEROLOGY. July '82. Age: 34. Nat'l bds. AB elig. MD, University of Paris VI, France; Int. and Res., Beth Israel Medical, NY. Prefers group or assoc. type practice. Write: Marc Obadia, M.D., 500 East 77th St., New York, NY 10162.

INTERNAL MEDICINE

July '82. Age: 33. AB elig. MD, Baylor College of Medicine; Int. and Res., St. Paul Hospital, Dallas, TX. Desires solo, group or assoc. type practice in medium to large size community. Write: Raymond T. Alexander, M.D., Rt. 1, Box 134Y, Frisco, TX 75034.

Cardiology. July '82. Age: 31. Licensed in Connecticut. AB cert. MD, Medical College Nagpur, M.S., India; Int. and Res., Hospital for Joint Diseases, New York; Fellowship, Mount Sinai Medical Center, Miami Beach, FL; Norwalk Hospital, Norwalk, CT. Trained in Cardiac Cath. Permanent and temporary Pacemakers, M. mode & 2-D echo. Nuclear Cardiology. Prefers solo, group, assoc. or institutional type practice. Write: Dalal Prakash, M.D., 40 Prospect Ave., Building #2, Apt. 3M, Norwalk, CT 06850.

July '82. Licensed in Connecticut. Age: 44. AB elig. MD, University of Saigon; Int., St. Raphael Hospital (Pathology); Res., McKeesport Hospital, McKeesport, PA. Wishes to practice in a small community. Positions of Emergency Room, Clinic or General Practice are acceptable. Write: H.A. Tran, M.D., 2807 Lincoln Way, Apt. #14, White Oak, PA.

NEUROLOGY

Negotiable. Age: 36. Presently in practice. FLEX. AB cert. MD, Medical College, Trivandrum, India; Int. Bergen Pines County Hospital, Paramus, NJ; Res., New Jersey College of Medicine. Solo, assoc., and institutional type practice in medium size community. Mainly interested in Hospital-based practice with teaching opportunities. Write: Srinivasan S. Mani, M.D., 2386 Simmental Drive, Madisonville, KY 42431.

OBSTETRICS & GYNECOLOGY

Summer '82. Age: 29. Nat'l bds; AB elig. MD, New York Medical College; Int. and Res., Brookdale Hospital. Prefers solo, group or assoc. practice in medium or large size community. Contact: Lawrence D. Kramer, M.D., 301 E. 22nd St., New York, NY 10010.

July '82. Age: 31. AB elig. MD, University of Bombay; Int., Goa Medical College, Goa, India; Res., Mt. Sinai Hospital, Hartford. Prefers group practice in a small to medium size community. Write: Sandip U Sawardecker, M.D., 100 Prospect Ave., Hartford, CT 06106.

July '82. Age: 32. AB elig. MD, Lady Hardinge Medical College & Hospital, Delhi University, N. Delhi, India; Int. NY Infirmary Hospital; Res., NY Infirmary—Beekman Downtown Hospital, NY. Has passed Part I of OB/GYN Board. Trained in Laparoscopy and Colposcopy. Prefers Assoc., group or solo type practice. Write: Mrudu B. Agarwal, M.D., 7-2L Winding Brook Dr., Guilderland, NY 12084.

OPHTHALMOLOGY

Sept. '82. Age: 36. FLEX. AB elig. MD, Hebrew University—Hadassah Medical School, Jerusalem, Israel; Int. and Res., Hadassah Medical Center; Fellowship, Toronto Western Hospital, Toronto, Canada (Neuro-Ophthalmology) and University of Minnesota (Neuro-Ophthalmology). Desires Group or institutional type practice in a medium to large size community. Write: Michael Hosotvsky, M.D., 4100 West 36 Street, Minneapolis, MN 55416.

Nov. '82. Age: 30. Nat'l bds. AB elig. MD, NY Medical College; Int., Nassau Hospital; Res., Hahnemann Medical College. Prefers solo or group practice in a small, medium or large size community. Trained in intraocular lens implantation, oculoplastic surgery, laser therapy and all aspects of medical and surgical ophthalmology. Write: Peter J. Embriano, M.D., Heather Ridge C-44, Mantua, NJ 08051.

ORTHOPEDIC SURGERY

Available on notice. Age: 36. Presently in practice (over five years). Nat'l bds; AB cert. MD, Georgetown University; Int., Lenox Hill Hospital; Res., Georgetown University Hospital. Desires Associate practice in a medium size community. Write: Christopher J. Cassels, M.D., 1390 Calle Pecos, Thousand Oaks, CA 91360.

Flexible. Age: 35. Presently in practice. Nat'l bds. AB cert. MD, Columbia University College of Physicians & Surgeons; Int., University of Virginia; Res., Harvard Combined Orthopedic Residency Program. Prefers solo, group, assoc., institutional and industrial type practice. Write: Neil J. Barkin, M.D., 9800 Falls Rd., Suite 104, Potomac, MD 20854.

OTOLARYNGOLOGY

July '82. Age: 29. Nat'l bds. AB elig. MD, Tufts University; Int., Montefiore Hospital; Res., University of Miami. Prefers group or assoc. type practice in a medium to large size community. Write: Richard G. Schiffman, M.D., 8101 Camino Real #c-318, Miami, FL 33143.

PATHOLOGY

July '82. Age: 30. Presently in practice. Nat'l bds. AB cert. MD, University of Wisconsin; Int. and Res., University of Wisconsin Hospitals; Fellowship, Yale-New Haven Hospital. Prefers group practice. Write: Renee B. Warren, M.D., 301 Millpond Village Dr., Hamden, CT 06514.

PEDIATRICS

Flexible. Age: 36. Presently in practice. Nat'l bds. AB elig. MD, Columbia; Int., University of Virginia; Res., Children's Hospital National Medical Center. Prefers clinic, group, assoc., institutional or industrial type practice. Write: Joan W. Barkin, M.D., 2415 Chilham Place, Potomac, MD 20854.

July '82. Age: 30. AB elig. MD, Guntor Medical College, Guntur, India. Int., Govt. General Hospital, Guntur, India; Res., U.O.A. Hospitals, Edmonton, Canada. No preference in type of practice or size. Write: B.R. Prasad Achanti, M.D., #310:11135-83 Ave., Edmonton, Alberta, Canada T6G2C6.

RADIOLOGY

May '82. Age: 34. Presently in practice. Nat'l bds. AB cert. MD, University of Arkansas Medical School; Int., Beth Israel Medical Center, NY; Res., St. Vincent's Medical, NY; Fellowship, Vanderbilt University Hospital. Prefers group practice in private office or hospital setting but will consider all possibilities. Write: Stephen P. Laufgraben, M.D., 19 Poplar Ave., Wheeling, WVA 26003.

SURGERY

GENERAL & VASCULAR. July '82. Age: 34. AB cert. MD, King George's Med. College, Lucknow University, Lucknow, India; Int., University of Lucknow Hospitals; Res., NY Infirmary-Beekman Downtown Hospital and NY University Medical Center; Fellowship, VA Medical Center, Albany, NY. Prefers a community and hospital where there is a need and facilities for Vascular Surgery. Write: Rajendra M. Agrawal, M.D., 7-2L, Winding Brook Dr., Guilderland, NY 12084.

VASCULAR. July '82. Age: 32. Nat'l bds. AB cert. MD, Boston University School of Medicine; Int. and Res., Roosevelt Hospital, NY; Fellowship, Cleveland Clinic Foundation. Desires group-partner practice in clinical vascular or general-vascular surgery. Write: CSMS, SUR/JMM (to be forwarded).

Immediately. Age: 37. AB elig. MD, A.M. College, Aslam, India; Int. and Res., Misericordia Hospital, NY. Small to medium size solo or group practice. Write: Bijoy B. Sarmaroy, M.D., 631 E. 235th St., New York, NY 10466.

VASCULAR SURGERY & GI ENDOSCOPY. Aug. '82. Presently in practice. Age: 31. Nat'l bds. AB cert. MD, Loyola University, IL; Int., St. Francis, Evanston, IL; Res., Loyola University, IL. Prefers assoc., solo, or group type practice in a medium size community. Write: Douglas A. Schipitsch, M.D., Box 262, Cumberland, WI 54829.

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July '82. Age: 42. Licensed in Connecticut. MD, Rangaraya Medical College, Kakinada, Andhra Pradesh; Int., Govt. General Hospital, Kakinada; Res., Memorial University of Newfoundland. At present is completing another year of residency in General Surgery to complete the requirements of by the American Board of Surgery. Prefers solo, group and/or institutional type practice in a medium size community. Write: Sambasiva Rao Allada, M.D., Apt. 212, Amherst Manor Apts., Williamsville, NY 14221.

GENERAL & VASCULAR. July '82. Age 35. Nat'l bds. MD, University of Hawaii; Int., REs. and Fellowship, Baystate Medical Center. Experienced in Trauma and Hyperalimentation. Desires solo, group, assoc. or institutional type practice. Write: Chanel G. Bouchereau, M.D., 410 Elm St., West Springfield, MA 01089.

UROLOGY

July '82. Age: 35. FLEX. AB elig. MD, Techmon Haifa, Israel; Int., Beth Israel Medical Center, NY; Res., NYU Medical Center. Interested in solo, partnership, group practice or multi-specialty group practice in a medium to large size community. Write: Jacob Heyman, M.D., 271 Ave. C. Apt. 5F, New York, NY 10009.

July '82. Age: 32. Presently in practice. FLEX. AB cert. MD, Aleppo University, Aleppo, Syria; Int., St. Vincent Health Center, Erie, PA; Res., Easton Hospital, Easton, PA; Fellowship, St. Vincent-Hamot, Erie, PA. Wishes to practice in a medium size community. Prefers Multispecialty group (fee-for-service) but would consider solo type practice. Write: Samir Bsata, M.D., 4917 Sir Hue Dr., Erie, PA 16506.

Special Problems in the Evaluation and Treatment of Emotional Disorders in the Elderly

IAN R. CAMERON, M.D.

It is my intention to focus on five points of particular importance in evaluating or treating elderly persons with apparent emotional or mental disorder. The five points are:

1) All patients presenting with "dementia" deserve a full work-up.
2) Is the problem functional or is it truly organic? (Pseudodementia versus Dementia.)
3) Depression as an underdiagnosed disease.
4) Common pitfalls in sedative and psychotropic prescription in the elderly.
5) A model for psychotropic drug usage in the elderly.

1. All Patients Presenting with "Dementia" Deserve a Full Workup.

The diagnostic and statistical manual of the American Psychiatric Association (DSM-III) points out that diagnosis must be by *syndrome type* as well as by specific *disease cause.* The following syndrome types exist. DELIRIUM, DEMENTIA, AMNESTIC SYNDROME, ORGANIC DELUSIONAL SYNDROME, ORGANIC HALLUCINOSIS, ORGANIC AFFECTIVE SYNDROME, ORGANIC PERSONALITY SYNDROME, MIXED OR ATYPICAL SYNDROME. Intoxication and withdrawal syndromes should technically be mentioned here also, although in these two the classification is etiologic rather than descriptive. With these two exceptions, *any* organic syndrome also demands one or more specific disease diagnoses. The focus of this article is dementia, by far the commonest of all of the organic syndromes. The reader is reminded, however, that it is possible to confuse delirium syndrome and dementia syndrome. Features of *dementia* include:—disorientation, memory disturbance, intellectual deficit, calculation deficit, judgmental deficit. The limitation of dementia to these primary stigmata is believed due to the disturbance being predominantly hemispheric. Note that the clinical features of *delirium* may *include* the above but with important additional features of disturbed mood, alertness and sleep, often with hallucinations (especially visual), and slowing or speeding up of thought. The pervasive impairments are believed due to *all* brain structures being affected. Delirium must be assumed to have one or more specific causes and may represent a medical emergency. Some specific causes of delirium are:—structural brain disease (tumors, subdural hematoma, cerebral infarcts), *medications, metabolic imbalance* (hyperglycemia or hypoglycemia, uremia,) hypothyroidism, hyperthyroidism, *malnutritional states, metastic tumor, hepatic disease, cardiovascular disease, fever, pulmonary disease, acute alcohol intoxication.*

Never assume that a primary idiopathic dementia ("senile dementia," "Alzheimer's disease") exists until *all* other specific etiologies have been ruled out. The diseases which can cause dementia are numerous, as the list below will indicate.

Diseases Causing Dementia*

1. *Diffuse parenchymatous diseased of the C.N.S.* (so-called "presenile dementias").
   - A. Alzheimer's disease
   - B. Pick's disease
   - C. Kraepelin's disease
   - D. Parkinsonism-dementia complex of Guam
   - E. Huntington's chorea
2. *Senile dementia* (pathologically appears same as presenile type.
3. *Other degenerative diseases*
   - A. Hallervorden-Spatz disease
   - B. Spinocerebellar degenerations
   - C. Progressive myoclonus epilepsy

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This paper is based upon a presentation offered at the Annual Meeting of the Connecticut State Medical Society in New Haven, Connecticut on May 27, 1981.

*Gunter R. Haase, M.D.................... (from Wells, C.E. "Dementia" F.A. Davis, 1977)

D. Progressive supranuclear palsy
E. Parkinson's disease

4. *Metabolic disorders*
   A. Myxedema
   B. Disorders of the parathyroid glands
   C. Wilson's disease
   D. Liver disease
   E. Hypoglycemia
   F. Remote effects of carcinoma
   G. Cushing's syndrome
   H. Hypopituitarism
   I. Uremia
   J. Dialysis dementia
   K. Metachromatic Leukodystrophy
5. *Vascular disorders*
   A. Arteriosclerosis
   B. Inflammatory disease of blood vessels
      Disseminated lupus erythematosus
      Thromboangiitis obliterans
   C. Aortic arch syndrome
   D. Binswanger's disease
   E. Arteriovenous malformations
6. *Hypoxia and Anoxia*
7. *Normal pressure hydrocephalus*
8. *Deficiency diseases*
   A. Wernicke-Korsakoff syndrome
   B. Pellagra
   C. Marchiafava-Bignami disease
   D. Vitamin B12 and folate deficiency
9. *Toxins and drugs*
   A. Metals
   B. Organic compounds
   C. Carbon monoxide
   D. Drugs
10. *Brain Tumors*
11. *Trauma*
    A. Open and closed head injuries
    B. Punch-drunk syndrome
    C. Subdural hematoma
    D. Heat stroke
12. *Infections*
    A. Brain abscess
    B. Bacterial meningitis
    C. Fungal meningitis
    D. Encephalitis
    E. Subacute sclerosing panencephalitis
    F. Progressive multifocal leukoencephalopathy
    G. Creutzfeldt-Jakob disease
    H. Kuru
    I. Behcet's syndrome
    J. Lues
13. *Other Diseases*
    A. Multiple sclerosis
    B. Muscular dystrophy
    C. Whipple's disease
    D. Concentration-camp syndrome
    E. Kufs' disease
    F. Familial calcification of basal ganglia

Note that patients who already have some degree of dementia, *of any cause,* are more vulnerable to the development of delirium syndrome.

Up to 45% of patients appearing in a physicians office with *apparent* dementia may prove partly or totally treatable. The following dementias, for example, may be partly or totally reversible.

Parkinson's disease
Endocrine disorders
Normal pressure hydrocephalus
Vitamin B12 and folate deficiency
Chronic drug intoxication
Alcoholism
Syphilis
Depressive illness
Intracranial masses
Chronic cardiovascular, pulmonary, hepatic or renal disease

The following lab procedures[1] are suggested in the *routine* work-up of a patient presenting with apparent dementia. The patient should also, obviously, have had a thorough history including nutritional history, physical examination, mental status examination, and neurological consultation or examination.

Blood Tests:

Complete blood count, Serological test for syphilis, "SMA-12," "SMA," or other standard metabolic screening test battery, serum thyroxine by column (CT4) or serum free thyroxine (FT4), Vitamin B12 and folate levels.

Electrocardiogram, Urinalysis, Chest x-ray, CT cranial scan.*

Note that deficiencies of vitamin B12 or folic acid are thought capable of contributing to dementia syndrome before the peripheral blood picture is affected.[2] The following points have been made on treatment of these deficiencies.

A. Although there may be some variation among laboratories, a serum B12 below 100 pg./ml. is generally diagnostic for primary B12 deficiency,[3] and both a serum folate of less than 3 ng./ml. and a red cell folate below 150 ng./ml. are diagnostic for primary folic acid deficiency.

B. Dreyfus[4] suggested that patients with nervous system dysfunction secondary to vitamin B12 deficiency should be treated with *daily* intramuscular injections of 50 ug. of cyanocobalamin for two weeks, then 100 ug. *twice weekly* for eight weeks and then 100 ug. *monthly.*

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* This test is not always available, is expensive and demands patient compliance or premedication. The clinician may choose to order it if other workup elements have failed to provide one or more disease diagnoses, or omit it if diagnosis appears certain. It would be unwise, however, to postpone CT scan where 1) there are focal neurologic signs or 2) the dementia has been of rapid and recent onset.

C. Patients with folate deficiency should receive *20 mg* folic acid orally daily *initially*[5, 6] which may later be reduced to 1 to 5 mg for daily maintenance or, if there is an absorptive defect, 200 ug. intramuscularly daily. Restitution to previous levels of function may not follow if treatment is delayed: When a patient has had a thorough history, physical, and neurological exam, and the tests outlined, and *no specific cause* or causes for the dementia syndrome is found, it is then reasonable to assume that the patient has an irreversible and progressive dementia of the primary idiopathic or Alzheimer's type.[7] It is important to bear in mind that although primary idiopathic dementia cannot itself be treated, certain associated symptoms may be treatable. These include: Depression, delusions and behavior disorder. Depression may improve with tricyclic antidepressants or, if major, with ECT. Delusions may disappear with neuroleptic medication[8] and behavior disorder may prove manageable with *intermittent* neuroleptic usage. Note that dementia may vary quantitatively with fluctuations in the underlying causes. Note also that patients with irreversible dementia are particularly vulnerable to the development of delirium. For practical reasons, it is important to quantify the patient's mentation deficit and, therefore, mentation monitoring is desirable in the overall care of a dementia patient. There are a number of instruments available, including the Pfeiffer "short portable mental status questionnaire," the Kahn and Goldfarb questionnaire and others. With minor modification, such seemingly simplistic devices are used in many countries and, provided that they are tactfully used, they are invaluable in assessing the level of "reality orientation"[11] necessary for the patient, and in monitoring improvement or worsening of dementia stigmata. The Kahn and Goldfarb MSQ[9] is reproduced below. (scored as # correct out of ten).

Current day of month?
Current month?
Current year?
Immediate past President of U.S.?
Name of this place?
Where is it located?
How old are you?
Month of birth?
Year of birth?
President of U.S.?

2. **Is the Problem Functional or is it Truly Organic? (Pseudodementia Versus Dementia).**

Differentiating between a true dementia syndrome (any cause) and pseudodementia is often difficult. Pseudodementia is most commonly due to depression (occasionally due to hypomania). One might think that a simple instrument such as the MSQ, or careful mental status examination would answer the diagnostic question. In fact, this is a notoriously difficult differential diagnosis, probably the most difficult in the field of Geriatric Psychiatry. The tabulation of clinical features, from Charles Wells'[10] article will assist the physician in differentiating real dementia from pseudodementia. Psychological testing by a Ph.D. Clinical Psychologist may be helpful, if the clinical psychologist is accustomed to struggling with that particular differential diagnosis. At times, however, the question can only be answered by assuming depression and empirically treating it. If the pseudodementia disappears, you have a post-factum diagnosis of depressive pseudodementia.

Clinical Features: Pseudodementia Versus Dementia

Pseudodementia:

1. Symptoms usually of short duration
2. Patients usually complain much of cognitive loss
3. Patients usually communicate strong feelings of distress
4. Attention and concentration appear well preserved
5. "Don't know" answers typical
6. Patients highlight disabilities
7. Patients often make little effort to perform well
8. Markedly variable performance on tasks of similar difficulty
9. Affective change often pervasive
10. Behavior often incongruent with manifested cognitive impairment

Dementia:

1. Symptoms usually of long duration
2. Patients often appear unaware of cognitive loss
3. Patients often appear untroubled
4. Attention and concentration usually defective
5. "Near miss" answers typical
6. Patients conceal disabilities
7. Patients often struggle to perform well
8. Consistently poor performance on tasks of similar difficulty
9. Affect labile and shallow
10. Behavior usually compatible with degree of cognitive loss

3. **Depression: An Underdiagnosed Disease:**

Depression, the commonest cause of pseudodementia, is an underdiagnosed disease in the elderly. Depression is the commonest emotional disorder in later life. It is *usually treatable.*

Stigmata of Depression

A) The following are *usually* present:

Sadness, despondency, sleep disturbance, diurnal mood variation, appetite disturbance, weight loss, reduced energy, pervasive pessimism, unexplained somatic complaints, social withdrawal and neglect of self and environment.

B) The following *may* by present:
Nihilistic delusions, somatic delusions, paranoid ideation, suicidal contemplation or attempts, apparent dementia, phobic symptomatology appearing for the first time after age 60.

Some Notes on Treatment of Depression:

A. Situational depression (reactive) may well be responsive to psychotherapy or counselling.

B. Major depression (likely to require referral to a psychiatrist)

   1. Psychotherapy with antidepressant medication
   2. If unresponsive, continue psychotherapy with second antidepressant medication
   3. If unresponsive, hospitalization and ECT. (This option becomes primary if the depression is profound or life-threatening. Note that ECT may be a relatively safe treatment in the elderly, sometimes safer than tricyclic antidepressant therapy).

C. Bipolar mood disorder
Lithium can be used with caution in the elderly. Required serum levels are lower (0.5 to 0.7 millequivalents per liter).

The physician should be aware of the possibility of renal damage, and 24 hour creatinine clearance studies are advisable both before beginning lithium therapy and at 6 month intervals thereafter. Note also the possibility of thyroid suppression. It is prudent to monitor thyroid functioning every 3 months. The clinician should note that fluid intake is important and that dehydration may produce lithium toxicity at a lower serum level than would be the case in a younger individual.

4. **Common Pitfalls in Sedative and Psychotropic Prescription in the Elderly.**
Elderly people have a very high incidence of adverse drug response. For example, an elderly person can rarely tolerate more than 4 milligrams a day of Haloperidol over time without developing extrapyramidal side effects. A conservative stance is advised, with attention to the possibility of drug-drug interaction. Parsimonious prescription is strongly advised. Intermittent dosage schedules are recommended where feasible.

5. **A Model for Psychotropic Drug Usage in the Elderly.**
Select carefully the drug to be used based on the *target* symptoms. Give as a test dose—one tablet (or the equivalent in liquid)—the smallest bolus in which the drug is manufactured. Watch for adverse drug response. If no adverse drug response, start on a once or twice a day basis, using the smallest bolus. Unless the situation is very pressing, try to allow four or five days between upward dosage adjustments. Keep the final dose as low as possible consistent with desired clinical response. The patient should be seen subsequently to monitor the continued necessity for the drug. Neuroleptics may provoke tardive dyskinesia, elderly women being particularly at risk. Long acting benzodiazepene drugs should be used rarely and with caution in elderly patients. The biological half-life of Valium increases with age and is, roughly, equivalent to the patient's chronological age. Therefore, an 80 year-old may metabolize Valium in such a way as to show an 80 hour biological half-life of the drug. More dramatically still, Dalmane (Flurazepam) which has itself a very short half-life, yields to an active metabolite, the half-life of which is likely to be significantly over 100 hours in elderly persons. There may be particular circumstances in which the clinician wishes to produce such long term effects. The commoner indications for benzodiazepines in the elderly are, however, night sedation, reduction of intermittent anxiety, or premedication for a procedure. The clinicians attention is, therefore, drawn to the availability of the shorter acting benzodiazepines Oxazepam (Serax) with a range of 6 to 12 hours, Lorazepam (Ativan) with a half-life of approximately 20 hours, or Temazepam (Restoril). Triazolam (Halcion, Upjohn) is due to be released in late February with a claimed half-life of 4 hours.

Examples of "Smallest Available Bolus"

1) Antidepressants:

Amitriptyline (Elavil)	10 milligrams
Imipramine (Tofranil)	10 milligrams
Desipramine—(Norpramine, Pertofrane)	12.5 milligrams*
Doxepin—(Sinequan)	10 milligrams
Amoxapine—(Asendin) (½ of 50 mg tab)	25 milligrams

2) Neuroleptics:

Haloperidol—(Haldol	0.5 milligrams
Thioridazine—(Mellaril)	10 milligrams
Perphenazine—(Trilafon)	2 milligrams
Thiothixene—(Navane)	0.5 milligrams

3) Benzodiazepine tranquilizers:**

Oxazepam—(Serax)	10 milligrams
Temazepam—(Restoril	15 milligrams
Lorazepam—(Ativan)	0.5 milligrams
Clorazepate—(Tranxene)	3.75 milligrams

4) Special purpose drugs:

Lithium Carbonate	75 milligrams

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*Needs to be specially formulated

**Use in the elderly of such long acting agents as Dalmane (Flurazepam) or Valium (Diazepam) is generally to be discouraged.

In conclusion, the reader is urged to adopt to parsimony of prescription. Unnecessary medication should be avoided at all costs. Most of our psychotropic drugs are poisons for the elderly unless prescribed with the utmost restraint. Patient compliance for your directions is also very important. Concomitant use of "over-the-counter" remedies should be specifically discouraged.

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5. Strachan RW, and Henderson JG: Dementia and folate deficiency. QJ Med 36:189, 1967
6. *Author's note:* Folic acid, while available abroad as 5 mg tablets, is most often stocked in USA as 1 mg tablets. Patients and pharmacists will generally require explanation of the dosage prescribed.
7. Wells CE: Dementia, edition 2, FA Davis Co, Philadelphia, pg 267, 1977
8. *Author's note:* Neuroleptic medication is synonymous with "antipsychotic" or "major tranquillizer" medication and includes phenothiazines, butyrophenones and thioxanthenes.
9. Kahn RL, Goldfarb AI, Pollack M and Peck A: Brief objective measures for the determination of mental status in the aged. Am J Psychiatry 117:326-328, 1960
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11. "Reality Orientation" is the term generally employed to describe the technique of splinting the relationships and environment of the demented person through the tactful provision of information which compensates, if only temporarily, for the mentation impairment. The term and techniques were first publicized by Folson (Taulbee and Folsom, 1966) and others.

Recovery of Bronchial Epithelium Found in Former Smokers

Results of an Australian study indicate that smoking-induced changes in the bronchial epithelium are reversible. Continued exposure to tobacco smoke is known to result in mucous cell hyperplasia followed by squamous cell metaplasia.

The study, reported by Bertram and Rogers in *British Medical Journal,* examined the effect of cessation of smoking on epithelial changes in the bronchi. Biopsy specimens were obtained from patients undergoing diagnostic bronchoscopy, and the structural state of the bronchial epithelium was assessed. The study subjects included five nonsmokers, eight current smokers and six former smokers who had stopped smoking two to 16 years earlier.

In the current smokers, the amount of damage to the bronchial epithelium was directly proportional to the number of cigarettes smoked, expressed as number of pack years. Of the five nonsmokers studied, four were found to have normal epithelium. Mild mucous cell hyperplasia was noted in the biopsy specimen of the remaining nonsmoker. Epithelial structure of former smokers was indistinguishable from that of nonsmokers, suggesting that bronchial epithelium returns to normal with cessation of smoking. ("Smoking Cessation and Recovery of Bronchial Epithelium" *Practical Cardiology,* February 1982, p. 37.)

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Treatment of Cerebral Metastases

MARC ERNSTOFF, M.D. AND ED CADMAN, M.D.

In the many ways cancer can affect the patient, involvement of the central nervous system by metastases can be perhaps the most debilitating. The exact frequency of brain metastases in the cancer patient population is difficult to determine. The three methods available to estimate this frequency are epidemiological, clinical and autopsy studies. The majority of information is derived from neurological and neurosurgical centers which have an interest in brain cancer. Therefore estimates reported in the literature may, in fact, not be an accurate estimate of the clinical problem that is observed within the community. The incidence of intracranial metastases in patients with cancer is generally between 15 and 20%.[1-6] Approximately 25% of these brain metastases are unsuspected clinically.[7,6]

Uniformly, the most common tumor to metastasize to the brain is bronchogenic carcinoma.[8-11] Allowing for interinstitutional variation the next most common cancer is that of breast, followed by melanoma. A single metastasis to the brain occurs in between 15 and 35% of patients who have brain metastases.[3,5] No particular tumor histology appears to have a tendency toward the development of a solitary metastasis over multiple lesions.

Presenting signs and symptoms can be nonspecific or very focal. The focal neurological deficits are generally due to destruction of nervous tissue by the tumor, and therefore very specific. Generalized symptoms are less often recognized as early as a focal lesion and include confusion, headache, and lethargy. These symptoms are most commonly the result of local edema surrounding the tumor or increased intracranial pressure. The first symptoms which suggest that a brain metastasis is present are listed in Table 1. Posner found, in contrast, that a careful neurological examination could reveal abnormalities which were unnoticed by the patient or his family. The use of serial 7's, memory and reasoning testing demonstrated that approximately 75% of the patients had some impairment in this area. Hemiparesis was documented in two thirds of the patients, 27% had unilateral sensory loss, 26% had papilledema, 24% had ataxia and 19% were aphasic.[6,13]

Table 1

PRESENTING SYMPTOMS OF METASTASES TO THE BRAIN[7,12,13]

Headache	50%
Focal weakness	30%
Behavioral changes	30%
Seizures	15%
Ataxia	<20%
Aphasia	<10%
Visual defect	<10%
Sensory change	<10%

Patients with brain metastases generally live from 1 to 3 months. The cause of death in two thirds of patients with brain metastases is actually from a medical complication of their systemic disease. In fact, death due to progressive neurologic disease occurs in only less than 20% of patients.[14,15] Thus in the majority of patients cure of brain metastasis would not influence their life expectancy.

Treatment modalities for cerebral metastases deal with three aspects: 1) acute decompression of brain tissue, 2) elimination of tumor, and 3) prevention of seizures.

Acute decompression of swelling and edema by steroids will markedly improve neurologic symptoms, although only for a short time.[15,16] Dexamethasone (Decadron^R) in doses of 16 mg per day to 96 mg per day has been shown to be effective.[17] Steroids reduce cerebral edema by decreasing permeability of the cerebral vasculature. It has also been demonstrated that steroids will reduce the production of cerebral spinal fluid. The blood flow to the area surrounding the tumor is also increased in response to steroids and may account for the sometimes observed dramatic neuro-

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logical improvement following steroids. Although steroids have been shown to have antitumor activity in animal models this has not been adequately documented in man. Side effects from acute steroid use include: bloating, tremor, insomnia, any myopathy which may develop in as short a time as 2-4 weeks. Steroids have not been shown to be effective in either prolonging life or maintaining long term remission of neurologic symptoms. Phenytoin (Dilantin^R) is often given to patients to treat or prevent seizures. This drug will enhance the metabolism of dexamethasone and effectively reduce the serum concentration of this steroid. This interaction may be important in that symptoms may recur which could be the result of the lowered concentration of dexamethasone.[18,19]

Mannitol and glycerol are agents which decrease edema quickly and have their major use in short term treatment when signs of herniation are apparent. They are not to be used for chronic control of symptoms, but only in emergency situations while a more definitive diagnosis or treatment is being considered.

Most reports of long term survivors after either radiotherapy or surgery are anecdotal. Any benefit from therapy for metastases to the brain must be contrasted with the morbidity and mortality of the treatment. Furthermore, this is in the context of a patient with systemic cancer, who, generally, has at best a median survival of 3 to 6 months independent of the course of the intracerebral metastases. When speaking of therapy we should be more concerned, at the present, with short term complications as well as reducing the time hospitalized. When systemic treatment modalities can produce long term survivors our therapy for intracerebral metastases should be reassessed. Presently we are unable to identify characteristics that set apart patients surviving two or more years from short term survivors.[20,9]

Surgical data reveal an overall median survival of 4 to 6 months. Patients with metastases from kidney and breast do slightly better with a median survival of 8 months as opposed to 5 months for other cancer patients. Complications include a mortality rate of 10% at best and 30% at worst in the perioperative period and are thus considered to be surgically related deaths. Reoperation for complications is also necessary in 15% of patients who survive the surgical procedure. Surgery is able, however, to achieve and maintain neurologic improvement in about 70% of cases.[21-23] There are in all studies the occasional patient who is surviving beyond two years and presumably cured of his disease because of the surgical removal of the isolated cerebral tumor. Criteria to select these patients will be summarized later.

Radiation therapy is also able to achieve and maintain relief of neurologic symptoms in from 65 to 70% of patients. The overall median survival again is generally from 3 to 6 months.[9,10,14] Complications from radiotherapy include rare reports of deafness and blindness, though this could not necessarily be attributed directly to radiation. Some patients may develop asymptomatic ventricular enlargement following whole brain irradiation which can be confused with a similar finding due to increased intracerebral pressure. Some patients have been documented at autopsy to have no residual tumor following radiotherapy. These patients generally have a radiosensitive tumor as the recent study from Memorial Sloan Kettering Hospital indicates in which there were three such patients.[14] All three patients had testicular carcinoma, one was treated with surgery also, the others by radiation alone. Even though the metastatic lesions evaluated by computerized brain scans may disappear, viable cancer cells can be noted at autopsy in a significant number of patients treated both surgically and with radiation.

Even though the incidence of seizures in patients with cerebral metastases is about 15% at presentation, other patients may develop seizures later in the course of their illness. If anticonvulsants are used it should be remembered that phenytoin, the drug of choice, will increase microsomal metabolism of the liver and thereby decrease the serum half-life of dexamethasone. The use of prophylactic anticonvulsant therapy is not uniformly agreed upon.

In summary, as clinicians, we have little ability to predict which patient with cerebral metastases will have a prolonged survival. Because of the overall short median survival of patients with cerebral metastases, the design of treatment with modalities which improve neurologic symptoms and offers the best chance for the patient to quickly return to domestic life should be the primary therapeutic goal. In patients with signs of herniation mannitol 1.5 to 2.0 gm/kg intravenously over 30 to 60 minutes is given in a 20% solution. Dexamethasone 10 mg intravenously is given as a loading dose followed by 4 mg every 6 hours. If the patient is comatose and intubated, hyperventilation to lower $PaCO_2$ to a range of 20-25 mmHg will reduce the brain size and therefore also lessen intracranial pressure. Radiation therapy can then be started, usually comprising 300 rads per treatment for 10 treatments. The dexamethasone can then be tapered. For patients with multiple metastases but otherwise stable, dexamethasone, 4 mg every 6 hours, is begun with radiotherapy. In patients with single metastases the same treatment is employed. In those patients whose systemic cancer is under control or who have a prognosis otherwise of greater than 6 months surgical extirpation is considered in combination with radiotherapy.[6] The few clinical situations in which surgical therapy should be considered are enumerated in Table 2.

Chemotherapy has absolutely no proven benefit for the treatment of brain metastases[24] and is therefore only recommended for the treatment of the systemic cancer.

The general approach to patients with cerebral metastasis is palliation. Only under very unusual circumstances should surgery be a therapeutic choice. However, in those selected patients who meet the defined criteria, surgery may in fact be the better treatment.

Table 2

CRITERIA FOR SURGICAL TREATMENT OF BRAIN METASTASES

1. A cancer patient with a single brain lesion without evidence of cancer elsewhere.
2. The brain lesion has not responded to radiotherapy and the life expectancy of the patient is in excess of one year (e.g., sarcomas or renal carcinoma).
3. A single metastasis which is a major cause of clinical deterioration and is easily accessible surgically.

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Informed Consent: How Much Must You Tell?

A Colorado court has placed standards of professional disclosure over a patient's need for information in determining the extent to which physicians must inform patients of the risks of treatment, reports the *Physician's Medical Law Letter.* After a patient with an arthritic ankle was given an artificial replacement, persistent infection set in, and the lower leg was eventually amputated. The patient sued, lost, and then appealed, claiming the surgeon never told him that he lacked experience with ankle replacements or that there were "special risks" involved in the procedure. (The patient had opted for replacement over ankle fusion without any warning, he said, that failure of the former would make the latter less possible.) Nevertheless, the Colorado Court of Appeals decided in favor of the physician, stating that physicians must only disclose the "substantial risks" of treatment to the extent that a reasonable medical practitioner would in the same circumstances. In this case, the physician's disclosure was judged to be consistent with community medical standards.

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Evaluation and Management of Patients with Established Multiple Sclerosis

GLEE I. WAHLQUIST, R.N., PH.D. AND JOHN BOOSS, M.D.

ABSTRACT—Long established multiple sclerosis presents problems of general health management rather than isolated neurological dysfunction. Patients with the greatest degree of disability accounted for both the majority and the most prolonged hospitalization of the group reported here. Use of the PULSES disability profile identified patients at risk for medical complications requiring hospitalization.

Reports concerning the possible cause, pathogenesis, and therapy of multiple sclerosis (M.S.) excite considerable interest in the scientific and popular press. Further, much attention is directed toward the differential diagnosis of M.S. in medical schools and in specialist training programs. However, since M.S. is a chronic disease usually starting in the early adult years, the greatest problem facing the medical profession is the evaluation and management of patients with established M.S. In Connecticut there are an estimated 1500 to 2,000 patients with M.S. In a recent survey, the Connecticut Valley Chapter of the Multiple Sclerosis Society has determined that two-thirds of the respondents receive health care from general practitioners (personal communication). Unfortunately, the evaluation and management of patients with long established M.S. has received less attention than the magnitude of the problem deserves. The present communication reviews the experience with this population in a clinic managed by a nurse clinician and a neurologist. Specifically, the value of a disability scale to identify patients at risk for significant medical complications is emphasized.

Methods

Patient Population. Forty-nine patients enrolled in the M.S. Clinic at the V.A. Medical Center, West Haven, Ct. served as the basis for this report. The clinic utilizes criteria for the clinical diagnosis of M.S. similar to those recommended by Rose, et. al.[1] The mean age of the group was 49.7 years (range of 27 to 70 years), 96% were male, and the average duration of the diagnosis was 12.3 years (range of under 1 to 34 years). The average number of visits to the clinic was two per year (range one to 4).

Disability Evaluation. The PULSES profile as developed by McCann and Moskowitz[2] and modified by Granger, et. al.[3] was employed because of its comprehensive yet clear nature. In this profile six variables are assessed: physical condition (P), upper extremity function (U), lower extremity function (L), sensory and communication functions (S), excretory function (E), and social support (S). Each variable is scored from one (total independence) to four (total dependence). With a range of six to 24, patients with a rating of 12 or more are considered severely disabled.

Hospital Admissions. Hospitalization was used as an index of disease complications. Medical records of each patient were reviewed for the number and causes of admission in the preceding year. The hospital admissions were found to vary according to duration of stay of one week or less or two weeks and more. Only one admission, for diagnostic evaluation of a breast mass, was felt to be unrelated to M.S. and therefore excluded from consideration.

Results

Disability. Twenty-eight patients had disability scores of less than twelve, whereas 21 had scores of 12 or more, indicative of severe disability. A breakdown of the disability scores in relation to hospital admissions is shown in the table. The most frequent type of disability in this population was motor and/or sensory dysfunction of the lower extremities in 47 patients.

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HOSPITAL ADMISSIONS FOR A ONE YEAR PERIOD IN A GROUP OF PATIENTS WITH CHRONIC M.S.: RELATIONSHIP TO PULSES DISABILITY SCORES

PULSES		*Less than 1 Week*		*More than 2 Weeks*	
Score	*Number of Patients*	*Admissions*	*Patients*	*Admissions*	*Patients*
6-10	24	2	2	0	0
11-14	11	2	2	0	0
15-19	6	1	1	1	1
20-24	8	0	0	10	7

Urological dysfunction was found in 36, upper extremity motor-sensory problems in 24, incoordination and/or tremor in 22, and mental status changes were noted in 21.

Hospitalization. As shown by the table, patients with lower disability scores were hospitalized infrequently for brief durations. Thus of 24 patients with PULSES scores of ten or less, two were admitted to the hospital for M.S. related problems. The duration of hospitalization was less than one week. In marked contrast, seven of eight patients with scores of 20 or more were admitted to the hospital at least one time. In each case the duration of hospitalization was greater than two weeks. Furthermore, these patients tended to have multiple problems requiring care during any one admission. The most frequent problem requiring hospitalization was urinary tract infection occurring in five of the seven severely disabled hospitalized patients. Other infections and their complications accounted for five additional problems. Two admissions were prompted by the need to maintain adequate care in the absence of a precipitating medical complication. This highlights a frequently encountered problem in this population, the vulnerability of the severely disabled patient when the primary care giver in the home is temporarily absent or incapacitated. Of the whole M.S. clinic population, only one admission resulted principally from deterioration of neurological function.

Discussion

This study has underscored the utility of evaluation of patients with long established M.S. by the PULSES profile. Patients in the highest disability range required hospitalization, had multiple medical complications and prolonged hospital stays. In contrast, patients with lower disability scores required hospitalization much less frequently, had fewer problems and briefer hospital stays. Of the total group followed for one year, only one admission resulted principally from neurologic worsening. The majority of hospital admissions were for medical complications.

The most frequently encountered medical complication was urinary tract infection. Since it has previously been demonstrated that there is a poor correlation between the type of symptomatology and the type of urologic dysfunction, these patients deserve a full genito-urinary evaluation prior to therapy.[4] In our own practice we discourage the use of indwelling catheters and prophylactic antibiotics. Rather, intermittent catheterization with frequent determination of residual urine volumes and an infection surveillance program have been employed. The goal of each urological regimen is to keep the patient dry, uninfected and with a low residual volume.

Several other problems require close attention. Spasticity, which can cause pain and contractures as well as reducing mobility, should be carefully evaluated for physiotherapy and medication. Patients with impaired gag reflexes are at risk for the development of aspiration pneumonia. Severe immobilization makes a careful skin care regimen requisite to prevent decubiti and subsequent infection. Similarly, bowel regimens are required to prevent recurrent impactions. Despair and depression are frequently encountered. Mental health consultation for the patient, and family, couples, and spouse counseling have been utilized in our clinic. Others have emphasized the multiple specialities, or team, approach to the care of patients with M.S.[5] Finally, the support services available at the offices of the M.S. Society in Norwalk, Branford, and Hartford should be noted.

In summary, the care of the patient with long established M.S. requires multiple services. The severely disabled of this group are frequently hospitalized for extended periods with complex problems. However, careful evaluation of these patients can identify those at risk for medical complications. Attention to the identified problems should reduce morbidity in this group.

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Central Nervous System Manifestations of Child Abuse

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AND DANIEL S. ROWE, M.D.

ABSTRACT—In children with central nervous system trauma or syndromes of unknown etiology the possibility of child abuse must always be considered. These syndromes range from subdural hematomas and skull fractures to intracerebral hematomas, diffuse encephalomalacia and stroke and may result in serious neurodevelopmental handicap. Because of the difficulty of diagnosis of central nervous system trauma, such patients may often be returned to their homes—with the recurrence of abuse. Thus, although we no longer in the State of Connecticut report selective CNS injuries to children secondary to abuse, physicians caring for patients with unexplained central nervous system disorders must consider this problem.

Introduction

The possibility of child abuse must always be considered in children with central nervous system (CNS) syndromes of unknown etiology. The CNS effects of child abuse were first reported by Caffey[1] in his 1946 description of children with subdural hematomas and multiple skeletal fractures. However, it was not until Kempe's description of "the battered child" in 1962,[2] that increased attention was paid to the problem of physical abuse and neglect of children. Although most children who have been physically abused have not suffered head injuries, a few present as unexplained CNS injuries and therefore are likely to be evaluated by pediatricians, neurologists and neurosurgeons. These children may experience longterm neurodevelopmental sequelae, and, despite increased recognition and reportion of child abuse in our state, it is precisely this group of children who may not be reported to the appropriate state authorities because of failure to make the correct diagnosis.

Case Discussions

The State of Connecticut Department of Children and Youth Services Division has reported increased recognition of the problem of child abuse, and since the centralization of reporting of suspected cases of abuse and neglect in 1977, the annual figures for the total number of children reported as suspected abuse, neglect and/or sexual abuse have steadily risen.[3] Last year, 12,186 such children were reported in the state of Connecticut; 3412 were thought to be abused. In addition, as many as 16 children per year have been reported to die as a result of abuse and/or neglect. During the first three years of the centralized reporting system, classification of the physical injuries were additionally recorded. This revealed that 18 to 33 children suffer skull fractures each year as a result of abuse and as many as 16 children are found to have subdural hematomas. The many other syndromes, including strokes, intracerebral hematomas, diffuse encephalomalacia, brainstem changes and spinal cord injuries, which may be the manifestation of abuse are not individually reported. In many cases, these represent more serious injuries and may be far more difficult for the physicians involved to identify as being secondary to abuse.

During the past 18 months, we have admitted young children with six different types of CNS syndromes of unknown etiology or trauma—all secondary to abuse. These cases represent the spectrum of CNS manifestations of child battering and the difficulty of its diagnosis. Tragically, of the three children admitted directly to our institution, two had experienced previous admissions to our hospital—both for CNS syndromes not recognized as being secondary to abuse, and the third child had been seen in our emergency ward with an unexplained long limb fracture at 7 months of age, and had been sent home with his parents.

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Case Reports

Case 1, Subarachnoid Hemorrhage, Subdural Hematoma (Figure 1): The patient was the 6 lb product of a full term uncomplicated pregnancy, labor and delivery who was brought to the Yale New Haven Hospital (YNHH) Emergency Ward at age two weeks for evaluation of lethargy. General physical examination was significant for facial bruising, and neurologic evaluation demonstrated lethargy, poor visual behaviour and diffuse hypotonia. Spinal fluid was grossly bloody and xanthochromic, and CT demonstrated a subarachnoid hemorrhage. During this admission the child developed seizures treated with phenobarbital. The child was released to the care of her mother, but returned to YNHH at age ten weeks for evaluation of an apneic spell. Evaluation at this time demonstrated marked bruising of the thorax, and neurologic examination was significant for profound lethargy, bulging fontanelle, bilateral sixth cranial nerve palsies, hypotonia with hyper-reflexia and bilateral Babinski responses. Emergency CT scan demonstrated bilateral subdural hematomas, and the patient underwent emergency subdural taps. Over the next two months the patient underwent daily subdural taps, with resolution of the left subdural hematoma and persistence of the right. The latter finding necessitated the placement of a right subdural-peritoneal shunt for a period of one month. During her hospitalization the patient's neurologic status markedly improved. She was discharged to the care of foster parents. Follow-up neurologic evaluation at age one year demonstrated both poor growth of head circumference and moderate developmental delay but no focal findings.

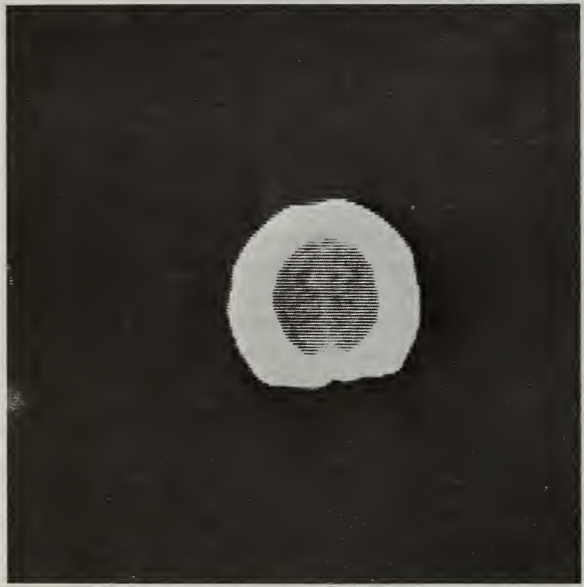

Figure 1

CT scan demonstrates blood in the interhemispheric fissure, consistent with subarachnoid hemorrhage.

Case 2, Intracerebral Hematoma (Figure 2): The patient was the 7 lb product of a full term uncomplicated pregnancy, labor and delivery who had grown and developed normally until, at age 10 months, she was brought to a local hospital emergency room with multiple bruises of the head and trunk. The mother of the child stated that she had fallen from a sofa to a hard wood floor one day prior to admission. Upon examination she was noted to have raccoon eyes and numerous bruises of the head and thorax; a skull roentgenogram revealed bilateral skull fractures.

The patient was transferred to YNHH, where neurologic examination demonstrated the child to be lethargic and profoundly hypotonic. The tendon reflexes were increased over the left side, and the child had a left hemiparesis. Her hematocrit was 23. An emergency CT revealed bilateral skull fractures, a 3 cm diameter right frontal intracerebral hematoma and effacement of the right lateral ventricle. In the hospital she developed inappropriate ADH and recurrent focal seizures of the left side. She was conservatively treated with fluid restriction and phenytoin and demonstrated slow neurologic improvement. Five weeks later she was discharged to a foster home. At age 18 months she demonstrated mild developmental delay, persistent left hemiparesis and poor head circumference growth.

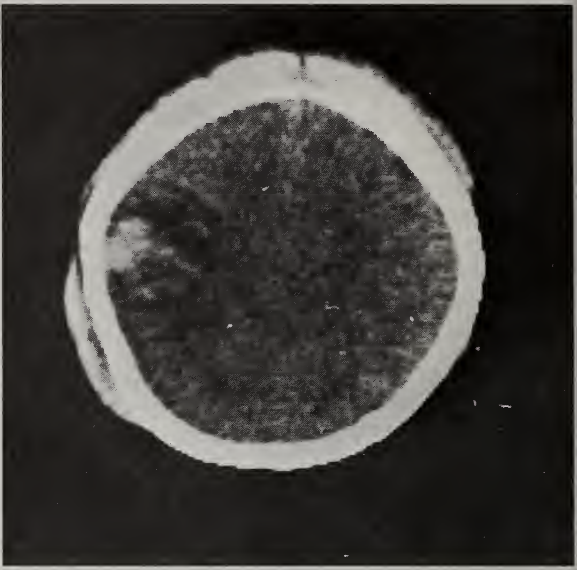

Figure 2

CT findings in this ten month old female include a right frontal intracerebral hematoma and soft tissue swelling.

Case 3, Subdural Hematomas: The patient was the 8 lb product of a full term uncomplicated pregnancy, labor and delivery. During the first year of life developmental milestones were normal, although, at age 7 months, he allegedly sustained a right humeral fracture while reaching for a bottle. At age 11 months he was brought to the YNHH emergency ward because of irritability. Physical examination demonstrated a bulging anterior fontanelle and marked lethargy. Neurologic evaluation revealed failure of upgaze, marked decrease in active tone and bilateral hyperreflexia with positive Babinski signs and a shrill cry. Emergency CT scan (Figure 3) demonstrated

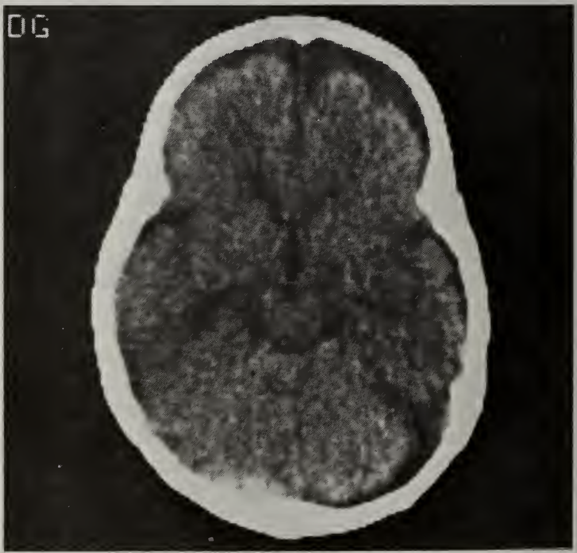

Figure 3

An emergency CT scan in this eleven month old male documented bilateral subdural hematomas shown in this figure.

bilateral subdural hematomas and the patient was noted to develop a profound bradycardia. Emergency bilateral subdural taps revealed 30 ml of bloody and xanthochromic fluid bilaterally. During the hospitalization, daily subdural taps were performed and the patient's neurologic status gradually improved. Family history revealed that a brother was known to have experienced periorbital hematomas of unknown etiology, and our patient was discharged to the care of a maternal aunt. Follow-up evaluation at 18 months continues to demonstrate mild hypotonia with hyper-reflexia and moderate developmental delay.

Case 4, Cerebrovascular Insult ("Stroke"): The patient was the 7 lb product of an uncomplicated gestation, labor and delivery who developed normally until 3 months of age when she developed a generalized grand mal seizure at home. Upon admission to our institution she was extremely irritable with an unremarkable general examination. Neurologic evaluation was significant for a marked left hemiplegia with hyper-reflexia and positive Babinski response. Electroencephalography demonstrated slowing over the right hemisphere and repeated CT scans demonstrated swelling of the same hemisphere with effacement of the right lateral ventricle. After 14 days' hospitalization, she was discharged to home with a moderately severe spastic left hemiplegia of unknown etiology.

At home she allegedly did well until age 11 months, when she presented to our emergency ward with a painful, swollen left leg. Radiographic investigation of this leg and subsequently other extremities demonstrated multiple fractures in various stages of healing. In addition, during this hospitalization the patient demonstrated recurrence of her seizure activity. She underwent a repeat CT scan which revealed an old infarct in the distribution of the right middle cerebral artery. She was discharged to the care of a foster home and has subsequently been given up by her mother for adoption.

Follow-up neurologic evaluation at age 2 years demonstrated profound microcephaly, severe developmental delay and a marked spastic left hemiplegia with shortening of the same leg. This patient's last CT is shown in Figure 4.

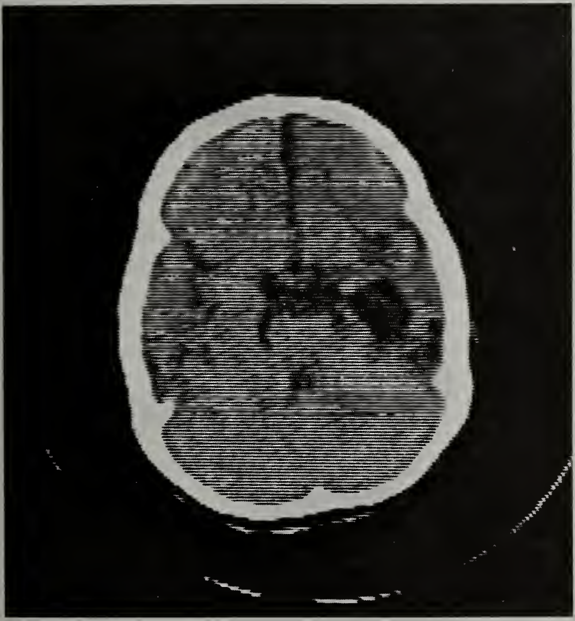

Figure 4

CT scan demonstrating an old cerebrovascular insult in the region of the right middle cerebral artery.

Case 5, Encephalomalacia: The patient was the almost 5 lb product of an uncomplicated 34 week gestation, labor and delivery; there were no significant neonatal problems and the family history was unremarkable for neurologic disease. Three days prior to admission to our institution the parents reported that the patient was noted to experience the onset of frequent apneic spells and episodes of eye rolling associated with lethargy. She was seen in the emergency ward of a local hospital and transferred to YNHH for further evaluation. Neurologic evaluation revealed an unremarkable general physical examination but intermittent opisthotonic posturing and decerebration. In addition, the child was found to have bilateral retinal hemorrhages, full fontanelles and intermittent eye deviation. CSF was grossly bloody and an EEG demonstrated numerous seizure discharges. An initial CT on the day of admission revealed generalized low density throughout, and a battering series was positive for a comminuted fracture of the skull and multiple bilateral rib fractures. CT is shown in Figure 5.

Serial CT scans at one and four weeks following admission demonstrated progressive loss of cortical tissue was with development of enlarging spaces consistent with diffuse encepahlomalacia or nongenetic poliodystrophy. The child has done poor clinically with failure of acquisition of any developmental milestones, blindness, absence of head growth and the development of a spastic quadraparesis. She was discharged to the care of foster parents.

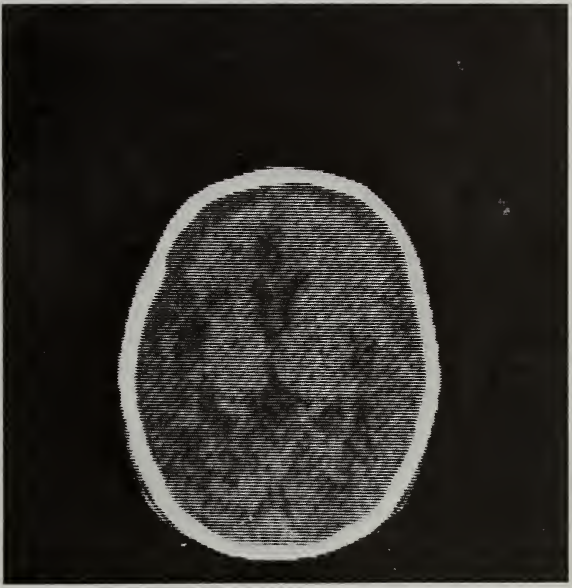

Figure 5

CT findings of central and cortical tissue loss with encephalomalacia in a 3 month old female infant.

Discussion

Nearly two decades ago, Kempe[2] directed the attention of pediatricians and all physicians caring for children to the concept of the "battered child," and the problem has received increasing attention from social workers and medical and lay personnel alike. Currently in the United States, approximately one million children each year are reported for physical abuse or emotional or physical neglect; 2000 of these children are fatalities.[4] Many of them suffer neurologic and/or neurosurgical problems and are directed to physicians dealing specifically with such diseases. It is this group of children who may experience longterm neurodevelopmental handicaps, as did our patients, and to whom more attention must be directed.

The CNS manifestations of child abuse were first reported by Caffey,[1] who noted subdural hematomas in children with multiple skeletal fractures. Since that time, physicians have recognized that the spectrum of CNS battering ranges from skull fractures to spinal cord injuries, cerebrovascular accidents, intracerebral hematomas and whiplash injuries resulting in subdural hematomas or diffuse encephalomalacia.[4-7] While skull fractures and subdural hematomas may be relatively simple to diagnose and to attribute to trauma secondary to abuse, syndromes of stroke and nongenetic progressive poliodystrophy may be more difficult. The advent of the CT scan has greatly simplified these diagnoses,[8-10] but the physicians caring for these patients must perform numerous diagnostic evaluations—and the etiology may remain obscure.

Physical examination at the time of admission of the child may provide additional information helpful for the diagnosis of abuse. Burns, bite-like lesions and multiple soft tissue injuries of various ages may often be encountered. Welts have been noted following abuse with ropes or electric cords. Sussman[11] has well described the many dermatologic lesions found in battered children.

Careful ophthalmalogic evaluation may reveal preretinal as well as retinal and intraocular hemorrhages, retinal detachment and/or papilledema.[12-14] Children suspected of previous abuse may be found to have impairments of visual acuity and traumatic cataracts. Such hemorrhages may be attributed to shaking or whiplash injury in children with no external manifestations of abuse.

Radiologic examination may also provide contributing data for the diagnosis of abuse.[15] Long-bone fractures may be noted; metaphyseal fractures with periosteal elevation and new-bone formation are characteristic x-ray findings in child abuse. This results from torsion-tugging force resulting in subperiosteal hemorrhage associated with periosteal separation which in time becomes mineralized. In addition, spinal trauma including vertebral fractures, fracture-dislocations, anterior vertebral body notching and disk space collapse has been noted in battered children. Swischuk[6] has suggested that acute hyperflexion of the child's spine could result in many of these radiologic changes, and thus the neurologic syndromes of the spinal cord which accompany them.

Physicians monitoring the CNS manifestations of abuse report that the etiology of CNS trauma may be changing, and the child who presented with subdural hematomas may no longer have experienced obvious physical trauma.[5, 7] Such lesions are no more commonly reported with whiplash shaking syndromes—and thus the child with unexplained subdural hematomas need no longer have a large head bruise or skull fracture—he may simply have been shaken.

Although the advent of the CT scan has clearly made easier the diagnosis of CNS syndromes in children, the etiology of such problems may not be clear, and children who have suffered from CNS abuse may not be suspected of this diagnosis, and therefore be discharged to the care of their parents. Because of the frequently serious neurologic problems and developmental delay which these children may exhibit and failure of the medical and lay personnel caring for the child to correct the situation which permitted the original abuse, the child may be at risk for additional battering; indeed, two of our patients with CNS problems returned to our institution with additional battering. Finally, children with CNS abuse may be liable to longterm neurodevelopmental handicaps, resulting in the need for careful follow-up, additional services and supportive care. Thus, despite the fact that in our state we no longer report selective injuries to the CNS of children, physicians must be alert to the problem and entertain the diagnosis of CNS abuse in children with unexplained trauma or CNS illnesses of unexplained etiology.

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Diagnostic Peritoneal Lavage at a Community Hospital

JOSE ALVAREZ, JR., M.D., MASSOUD A. MARJANI, M.D.,
AND EDWARD DUNN, M.D.

ABSTRACT—In order to determine the effectiveness of peritoneal lavage at our institution, the charts of patients admitted within the last five years to Waterbury Hospital with the diagnosis of severe blunt abdominal trauma and undergoing peritoneal lavage were reviewed retrospectively. The results of lavage were correlated with clinical and intra-operative findings. The percent of true positive and true negative as well as false positive and false negative results were determined. Correlation with liver/spleen scans were made where appropriate. A technique of performing the lavage will be reviewed. Our results were compared to several large series of patients and discussed.

Introduction

In blunt trauma management, because of the frequent inability of the patient to relate his complaints, be it due to shock, agitation, central nervous system injury or ethanol consumption, it is hazardous to rely only on physical examination of the abdomen to determine the presence of intraperitoneal injury.

Assessment of intra-abdominal hemorrhage is particularly difficult since the physiologic response to injury may be altered depending on age, associated injuries and the physical condition of the traumatized individual.

The magnitude of the problem is significant if one considers that accidents are now the leading cause of death of persons less than forty years old[9] (an especially prominent cause among children), that they are the fourth leading cause of death overall[16] and that clinical decisions regarding the management of these patients must be made quickly and accurately to prevent in-hospital deaths due to delay in treatment (these may be as high as 14% of all patients arriving alive at the emergency room according to Foley, et al).[7]

Since the description of diagnostic peritoneal lavage by Cannizaro, Fitts and Sawyer in experimental studies in animals in 1964[3] and the introduction of the use of the procedure for trauma victims by Root et al in 1965[15] thousands of lavages have been performed by several different methods. Lavage has proved to be more accurate when compared to abdominal paracentesis[11] which has a large false negative rate; it is easy to perform in the majority of individuals, has a small percentage of complications and also can be used as a tool that allows for discriminate therapy depending on the laboratory results obtained by analyzing the returning irrigant fluid as advocated by Perry.[14]

To determine the efficacy and clinical usefulness of peritoneal lavage at our institution, all charts of patients undergoing the procedure and admitted to the ICU from 1975 through 1980 were reviewed retrospectively and their clinical course and management compared to the results of several large series of patients.[1,6,12,13]

Materials and Methods

All those charts of patients observed in the ICU with the admitting diagnosis of severe blunt abdominal trauma from 1975 through 1980 were reviewed. The most common reason for lavage was blunt abdominal trauma, although a few patients underwent lavage because of penetrating chest injuries.

The majority of peritoneal lavages were performed in the midline in the subumbilical area. The skin was anesthetized with 1% Xylocaine with epinephrine, one to two centimeters below the lower margin of the umbilicus after bladder drainage was established by Foley catheter and appropriate resuscitative measures (such as placement of large bore I.V.s, CVP catheters and endotracheal intubation) were performed.

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Only those patients with trauma severe enough to be admitted to the ICU or directly to the OR were considered. Those patients admitted to other areas of the hospital were not entered in this study.

The method of lavage was left up to the individual resident or attending surgeon performing the procedure but was, in the majority of cases, either a semi-open technique (linea alba incised with scalpel, peritoneum penetrated blindly with a trochar) or an open one (both linea alba and peritoneum incised, peritoneal dialysis catheter placed under direct vision). Normal saline or lactated ringer's solution, 1000 ml, were used as an irrigant and returned to the bottle by gravity. (In children, 10 ml of fluid per kg of body weight was used.)

Results of lavage were classified as grossly bloody, clear, or equivocal (pink) according to the immediate return. 11 clear and equivocal lavages were analyzed in our laboratory for RBC and WBC counts, amylase, bile, bacteria (via gram stain) or intestinal contents (by microscopic examination for foreign material).

In some patients with light pink lavage return, the catheter was left in situ and a second lavage performed after one hour. The return was again analyzed as explained above.

In two instances the lavage was performed via the right upper quadrant because of previous lower abdominal operations.

Table I
INTERPRETATION OF RESULTS OF DIAGNOSTIC PERITONEAL LAVAGE

	Test Result
Blood in catheter	Positive
Aspiration of blood	Positive
Clear lavage fluid	Negative*
Pink lavage fluid	Equivocal*
Grossly bloodly lavage fluid	Positive
Many white blood cells in lavage fluid (> 500 WBC/cu mm)	Positive
High amylase activity (> 100 U/100 ml)	Positive
Many red blood cells (> 100,000 RBC/cu mm)	Positive
Bile or intestinal content in lavage fluid	Positive
Bacteria in lavage	Positive

* Pending microscopic study and lab results
(Chart modified from Engrav[6])

Results

Since 1974 a total of 85 patients underwent peritoneal lavage and were either taken to the OR directly or admitted to ICU for observation or treatment of other injuries.

Age and sex distribution are seen in Figure 1. A preponderance of patients in the first three decades of life is found in our series, as has generally been reported by others.[2,12]

The male to female ratio was 3.4:1.

Automobile accidents were by far the most common cause of blunt traumatic injury to the abdomen making up 67% of all admissions. Of these, the majority (38 to 57 victims) had associated central nervous system, chest injuries or both. Table III.

The most commonly injured organ was the spleen making up 43.1% of the injuries alone or in combination with other injured organs.

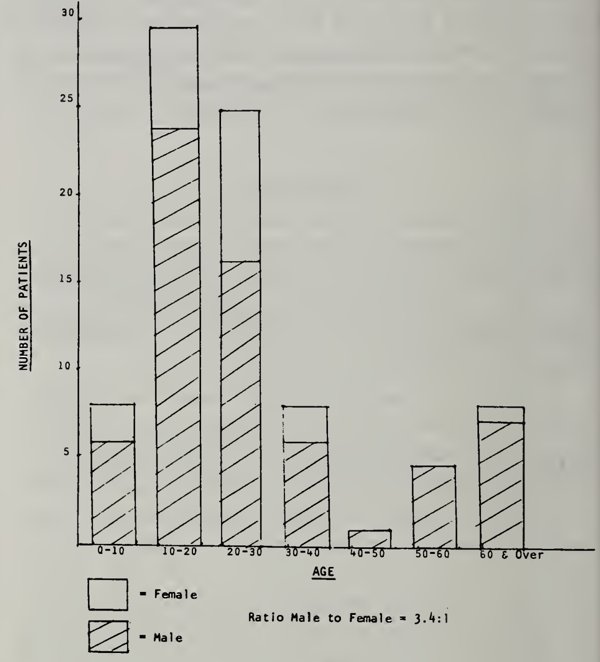

Figure 1
Age and sex distribution of patients.

Table II

	Peritoneal Lavages	*Pts. Explored*	*Pts. Observed*	*Pts. With Significant Intra-Abdominal Injury*	*Pts. With Minimal Intra-Abdominal Injury*
Patients with Gross Blood in the Lavage	39	39	0	38	1 §
Patients with clear Lavage	23*	1 †	22	1 ‡	0
Patients with equivocal (pink) Lavage	23	6	17	4	2
TOTALS	85	46 (54.1%)	39 (45.9%)	43	3

* 9 of the patients with clear lavage underwent L-S scan and all 9 were negative.
† Explored because of worsening vital signs and ↑ temperature
‡ Ruptured jejunum close to ligament of Treitz
§ Lacerated Omentum, iatrogenic

Table III
TYPE OF ACCIDENT

	Patients With Blunt Abdominal Trauma Only	*Patients with CNS & Blunt Abdominal Trauma*	*Patients With Chest Injury & Blunt Abdominal Trauma*	*Patients With CNS, Chest Injury & Blunt Abdominal Trauma*	*Totals*
AUTOMOBILE	19	16	15	7	57
MOTORCYCLE	1	2	3	1	7
OTHER*	14	2	5	0	21
TOTALS	34	20	23	8	85

* Skiing accidents, falls, fights, stab wounds to chest, etc.

In recent years efforts have been made at our institution towards the salvage of this organ to preserve immunologic competence. Within the last two years three splenorrhapies were performed successfully. (Injury by organ is tabulated in Table IV.)

Table IV
INTRA-ABDOMINAL ORGANS INJURED

Organ	*No. Injuries*	*Percent*
Spleen	28	43.1
Liver	16	24.6
Retroperitoneal Hematoma	9	13.9
Bladder	2	3.1
IVC & Retrohepatic Vein	2	3.1
Mesentery & Omentum	2	3.1
Gallbladder	2	3.1
Pancreas	1	1.5
Diaphragm	1	1.5
Stomach	1	1.5
Small Bowel	1	1.5
Colon	0	—
TOTALS	65	100.0%

Forty-five percent of all lavages were grossly positive for blood and all those patients were taken directly to the OR for exploratory celiotomy. All but one of those patients had significant intra-abdominal injuries. The patient in question was our only false positive result and our only complication from catheter insertion. He sustained a small omental tear which was found to be bleeding at the time of exploration. This was repaired successfully.

There were 25 patients arriving at the emergency room unconscious (29.4% of all patients in our series). Of these, 10 died, making up almost 12% of our patients and accounting for all the mortality. Five patients died of intra-cranial injuries and five died of other causes (three of bleeding, two of cardiac arrest).

Sixteen patients arrived inebriated at the hospital with a blood ETOH level of at least 100 mg/% (in some cases the value reached 300 mg/%); this made history taking difficult and evaluation of physical findings virtually impossible.

Twenty-three patients had clear lavages and negative laboratory evidence according to Perry's classification. All of these patients were observed and only one had to be subsequently explored two days after admission for deteriorating vital signs, decreasing blood pressure and sepsis. She was found to have a ruptured jejunum close to the ligament of Treitz.

The remaining twenty-two patients were observed and had no morbidity or mortality, from intra-abdominal injury or the lavage procedure itself. A significant statistic was that in those patients having a negative clear lavage, a subsequent liver/spleen scan was not helpful and probably unnecessary. Nine patients had this test performed without a single positive result.

Our last group of patients consists of twenty-three pink (equivocal) lavages. Seventeen did not fulfill the criteria for positivity and were observed without sequelae. Three patients had RBC counts above 100,000/cc and were explored; each was found to have a significant injury. See Table V.

The last three patients were explored because of clinical deterioration in spite of negative laboratory evidence for the lavage. These patients make up the false negatives in our series. Two had life threatening intra-abdominal injuries (pancreatic rupture, capsular tear of spleen). The other patient had a non-expanding retroperitoneal hematoma.

Table VI shows the distribution of true and false positives and negatives and the accuracy of lavage (95.3%). It also shows our complication rate.

Discussion

Peritoneal lavage has been proven to be an effective adjunct in trauma management in several series of reports, mainly from university hospitals and research-oriented institutions. The value of this technique in the community hospital has infrequently been reviewed and we felt it is important to do so.

The ease and rapidity with which this procedure can be performed and its extraordinary accuracy of 95% and above has been shown by several investigators[6,11,14] and its value in a series of unselected cases reported by Jacob and Cantor.[8]

As can be seen in Table VI, our accuracy rate is 95.3% which corresponds closely with the values in larger series.

Our false positive rate of 1.2% is lower than the 2-5% false positive rate reported by Ahmad and Polk,[1] Thal and Shires[19] and Dupriest and colleagues.[5] Possible reasons for such a low rate include:

a. Open or semi-open technique allowing for visualization of abdominal wall hematomas (a significant cause of false positive results in these larger series).

Table V
PATIENTS WITH EQUIVOCAL LAVAGE UNDERGOING EXPLORATION

	Lab Results On Equivocal Lavage	*Classification by Microscopic Chemical Findings*	*Reason For Exploration*	*Findings*
10 year old white male involved in bike fall	Bright pink HCT 2%	+	Lab Results	Transsected spleen Splenectomy
35 year old white male fell 2 stories on abdomen	Dark pink HCT 5%	+	Lab Results	Ruptured bladder
26 year old white male Auto accident	Pink—26,800 RBC/cml 100 WBC/cml —Bile Amylase	—*	↓ BP and deteriorating VS	Capsular tear spleen Splenorrhaphy
61 year old white male fell 3 stories	Pink—3,560 RBC/cml 111 WBC/cml —Bile Amylase	—*	↓ BP ↑ Transfusion Requirement	Non-expanding Retroperitoneal hematoma
19 year old white male Auto accident	HCT 2%	+	Lab Results	Non-bleeding hepatic laceration
19 year old female Auto accident	Pink—1,397 RBC/cml 0 WBC/cml—Bile Amylase & gram stain	—*	↑ Abd. tenderness, sepsis, ↓ BP second hospital day ↑ Blood amylase level	Ruptured pancreas

* False negative

Table VI
PERITONEAL LAVAGE RESULTS

Results	*Number*	*Percent*
True Positive	41	48.2
True Negative	40	47.1
False Positive	1	1.2
False Negative	3	3.5
TOTALS	85	100.0%

Accuracy Rate = 95.3%
Percent Complications directly related to catheter insertion = 1.2%

b. Use of epinephrine in the local anesthetic solution to decrease the incidence of bleeding from the skin incision.

c. Larger retractors allowing for good visualization.

The only morbidity from the procedure was an omental tear iatrogenically induced by catheter insertion. There were no instances of bowel perforation or iliac blood vessel injury nor were there any wound infections at the lavage site as reflected by the low (1.2%) morbidity rate.

Lavage proved invaluable in dealing with comatose patients since unnecessary laparotomies were avoided in 12 out of 25 patients and diagnosis and treatment for major CNS injury was not delayed. This can be seen in the somewhat lower mortality rate (40%) when compared to the series reported by Wilson et al[20] in which 76% of patients with combined CNS and abdominal injuries died.

Various techniques of lavage have been proposed by several authors[10,17] but the lower midline infra-umbilical incision is preferred at our institution since this site of the abdominal wall is less vascularized and easily approached.

Careful surgical technique with thorough hemostatis of the wound edges and use of deep skin retractors is emphasized. (These are invaluable in obese patients.) Perry's open lavage method[10] which was used in the majority of the cases, allowed adequate visualization of the peritoneal membrane. Bowel or vessels which may be found in close proximity to the proposed peritoneal incision site can be bluntly pushed aside with the gloved finger, thereby avoiding injuries.

Distribution as well as complexity of traumatic injury in our series parallels the experience at major trauma centers.[11-13] Sixty percent of patients had trauma to more than one major organ system.

The percentage of false negatives in our series occurred from well proven cases such as retroperitoneal hematomas and rupture of retroperitoneal organs which, in order to be detected by lavage, depend on diapedesis of red blood cells and other substances across peritoneal membranes.[18]

Conclusion

We conclude that, in any hospital, even when performed by many different surgeons, peritoneal lavage is a highly accurate and extremely helpful procedure in the management of multiple trauma complicated by suspected intra-abdominal injury. Lavage is especially advantageous in the unconscious or intoxicated patient by preventing unneccesary abdominal explorations in those patients who may need rapid neurosurgical intervention.

We advocate the open technique developed by Perry and emphasize that clinical observation is important in those instances in which the lavage is negative since a few false negative results may be discovered. Significant clinical findings in the face of negative lavage require prompt surgical intervention.

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Competition in the Health Care Sector

Certain analysts believe that competition among physicians is increasing at present. Physician responses to a recent survey conducted by Market Opinion Research addressed this issue.

> 33% of physician respondents feel that there are, at present, too many doctors in their community. Only 11% believe there are too few physicians. The remainder, 52%, indicate that the current number is about right. In contrast, only 10% of public respondents (Gallup Organization) state that there are too many doctors in their community, while 38% feel there are too few physicians.
>
> Physicians in demographic categories that have grown the fastest in the last decade are most likely to report that there are too many physicians in their community. These include:
>
> — physicians under 30 years of age -vs- all other ages
> — physicians residing in the Western US -vs- all other areas
> — physicians in medical specialties -vs- all other specialties
>
> In terms of competition from new emerging forms of medical practice, physicians indicate substantially more growth in hospital outpatient services than any other organizational type, including HMOs or IPAs.
>
> —*Survey and Opinion Briefs,* AMA, Vol. 1, No. 1, March, 1982

The Cytomegalovirus: When and How to Look for It

HANS H. NEUMANN, M.D.

Infections with the CMV are common; in fact, almost half of all people have or have had the infection at one time or another. While most CMV infections are asymptomatic, clinical disease with symptoms, and severe illness causing permanent damage or death, do occur.

CMV is a member of the herpes virus family. An infection may become latent, with reactivation during periods of reduced immunity.

Symptoms of CMV Infections

In the presence of uncharacteristic symptoms, when should one suspect a CMV infection and look for the CMV as the etiological agent? The signs of such an infection are sometimes merely those of elevated temperatures, labelled as "fever of unknown origin." Aside from a slight fever, the manifestations vary and comprise several clinical entities: overt disease in the newborn; in children after the neonatal period and in adults; in the immuno-compromised host; and post-transfusion CMV.

The Newborn

In newborns, enlarged liver and spleen, petechiae, signs of encephalitis with lethargy and convulsions, jaundice and hematuria are some of the presenting symptoms. They may also involve the skin, the optic nerve and the lungs. Again, many newborns may be infected and shed the virus in the urine, yet remain entirely asymptomatic. About one percent of all newborns are infected without showing any evidence of it.

In symptomatic cases survivors may remain permanently damaged with signs of mental retardation, motor disabilities, deafness or visual defects. About one child per 6,000 births has severe congenital CMV disease, with either gross anomalies, or late-onset deafness and subtle retardation.

Children After the Neo-natal Period and Adults

In adults and in children after the neo-natal period the clinical picture is vague: there may be protracted fatigue, and possibly elevated temperature. The symptoms resemble those of infectious mononucleosis, with general malaise, joint and muscle pains, and lymphadenopathy. The liver may be enlarged and tender. The severity of the illness may vary greatly in degree and manifestations may be entirely absent in new infections.

Perhaps one tenth of the cases clinically suspected of being mononucleosis are, in fact, CMV infections. A distinction can be made by the absence of heterophile antibodies, not on clinical grounds.

The Immunosuppressed Host

In the immunosuppressed host, the CMV may be responsible for pneumonias or other clinical pictures similar to those described above, but in more severe form. The infection may affect any organ system; in particular, the liver, spleen and lungs. This is not a rare complication in patients with neo-plastic disease who are receiving chemotherapy, or in patients who have had organ transplants, particularly in renal transplant recipients.[1]

Post Transfusion CMV

CMV infections are seen after blood transfusions from viremic donors. The most prominent signs are an elevation of the temperature, malaise, and a temporary change in the liver function. An example that produced public awareness of this link occurred when the Pope suffered a CMV infection after multiple blood transfusions and his convalescence was interrupted by the infection.

Transmission of CMV

The CMV is transmitted from person to person. It does not survive outside the body, and animals have their own, and different CMV species which are not pathogenic for man.

Because of the presence of the virus in saliva, kissing can be a mode of transmission, as is sexual intercourse, since sperm may contain CMV for long periods of time. For this reason CMV is usually included among the sexually transmitted diseases. In 5 to 10% of healthy individuals, CMV can be cultured from saliva or from

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HANS H. NEUMANN, M.D., Medical Director, New Haven Health Department, New Haven, CT.

the cervix, and sexual contact is considered a major mode of transmission in young adults.

Patients attending VD clinics have a higher prevalence of CMV seropositivity than patients of similar age from the general population.

To infants, CMV is transmitted through the placenta, or from vaginal and cervical secretions during delivery.[2] Breast milk is an important source of CMV infections in newborns and serves to produce natural immunization.[3]

Lab Tests for CMV

To verify a suspected infection with the CMV, two methods can be used:[4] recovery of the virus from cultures; and serological tests which compare antibody titers over the course of several weeks.

The most convenient and reliable source for CMV *cultures* is urine, five ml of the first morning sample. Other sources are the throat or blood. Blood cultures require 5 ml of heparinized blood.

While the cultures from blood may show the presence of the virus during the limited period of the acute phase of the illness, shedding of CMV may continue for long periods both in urine and saliva. In fact, the virus may persist for years following primary infection.

CMV cultures may be negative despite the presence of an infection, because of the fastidiousness of the virus and the difficulties of culturing it. In the presence of CMV in viral cultures, several days may elapse before their effects can be detected and before a positive report can be made.

Serological studies (Complement Fixation Tests) take even more time, since titers have to be followed over the course of two or three weeks. However, serological studies may show the presence of an acute infection in the absence of culture evidence. Five ml of sterile clotted blood is required for CMV serological tests and the test has to be repeated to determine a rise in antibody titers. To indicate the presence of an acute CMV infection, the increase in the titer should be at least fourfold.

Microscopic examination of urine sediment for CMV inclusions lacks sensitivity and is not considered a useful method for the diagnosis of CMV infections.

Treatment of CMV Infections

There is no specific treatment. All that can be offered at this time is symptomatic care to control convulsions, fever or aches. Yet establishing the diagnosis is of value in order to clarify the cause of an unclear complex of symptoms, and to rule out the presence of a treatable infection.

CMV attenuated vaccines have been extensively studied,[5] but there are too many unknown factors about the incidence of congenital infection in immune and non-immune mothers, to recommend its use at this time.

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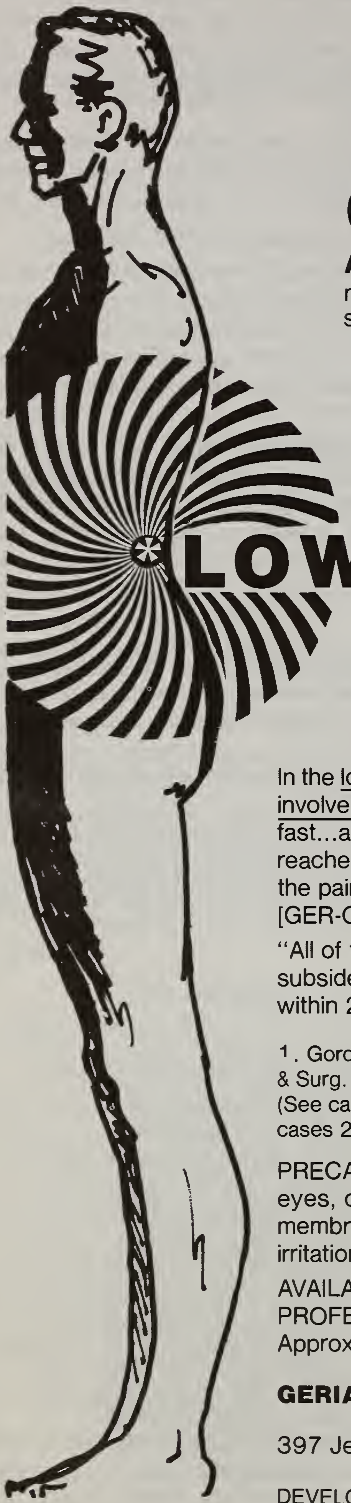
U.S. Supreme Court Vote In AMA v. FTC . . . By a split vote of four to four, the U.S. Supreme Court on March 23, 1982 disposed of the AMA challenge to the FTC order in the case challenging the Principles of Medical Ethics on physician advertising and solicitation and contract practices by affirming the two to one decision of the U.S. Court of Appeals for the Second Circuit. The Second Circuit ruled on October 7, 1980 that the FTC had jurisdiction over nonprofit professional associations such as the AMA, the Connecticut State Medical Society and the New Haven County Medical Society, and that there was substantial evidence in the record to support entry of an Order. The Second Circuit also modified the Order to assure a role for medical societies in making certain that physician advertising is not misleading or deceptive and to permit medical society disciplinary actions in cases where physicians' charges are unconscionable or where there is a pattern of excessive charges. The Supreme Court issued no written opinion and Justice Blackmun took no part in the case.—*American Medical Association v. Federal Trade Commission,* Docket No. 80-1690 (U.S. Sup. Ct., March 23, 1982)

—*The Citation,* Vol. 45, No. 1, April 15, 1982



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[1]. Gordon, E.E. and Haas, A., Indust. Med. & Surg. 28:217, 1959. (See cases 2, 10, 15, 18, 35, 36 in Table I; cases 20 and 31 in Table II).

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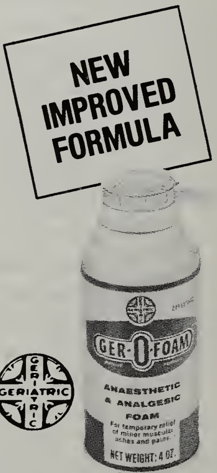
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Important Advances in Clinical Medicine

Epitomes of Progress—Anesthesiology

Dantrolene: Specific Drug Therapy for Malignant Hyperthermia

Malignant Hyperthermia is a fulminant hypermetabolic crisis induced by anesthetic trigger agents in genetically susceptible persons. The fullblown syndrome, with tachycardia, cardiac dysrhythmias, unstable blood pressure, fever, rigidity, hypoxemia, lactic acidosis, hyperkalemia and myoglobinemia, has a mortality of 60 percent. This syndrome has been reported in patients ranging in age from 3 months to 70 years.

Malignant hyperthermia results from a defect of membrane calcium transfer in skeletal muscle. The sarcoplasmic reticulum, in response to a triggering stimulus, releases an abnormally large amount of calcium because of abnormal "leakiness," or by its inability to reaccumulate calcium from the myoplasm back into intracellular storage sites. Excess myoplasmic calcium produces an abnormal amplification of excitation-contraction coupling. The resulting hypermetabolism and continued contraction of skeletal muscle generate heat, exhaust adenosine triphosphate stores, uncouple mitochondrial oxidative phosphorylation, and lead to further cellular and membrane derangements.

Until recently the treatment of malignant hyperthermia consisted only of supportive measures—discontinuance of anesthesia, hyperventilation with 100 percent oxygen, sodium bicarbonate for metabolic acidosis, procainamide for cardiac dysrhythmias, cooling, diuretics to prevent myoglobin from precipitating in the renal tubules, and treatment of hyperkalemia. Although it may restore blood gas and other laboratory values, supportive therapy does not alter the underlying and continuing pathological defect.

Dantrolene sodium, which acts to prevent excessive release of intracellular calcium, is one of several hydantoins synthesized by Snyder and associates in 1967 that proved to have muscle relaxant properties. Extensively investigated, dantrolene is known to act directly on skeletal muscle but has no effect on smooth and cardiac muscle. It does not affect neuromuscular transmission or electrically excitable surface cell membranes. Van Winkle showed that dantrolene is pharmacologically active within the sarcotubular system where it suppresses the release of calcium. It has proved effective in the treatment and reversal of malignant hyperthermia in both swine and humans.

Dantrolene is not a substitute for aggressive, supportive therapy—it is a specific adjunct to established treatment. It is supplied as a lyophilized powder which is dissolved in sterile water. The initial intravenous dose for children and adults is 1 mg per kg of body weight, repeated as necessary for persistent physiological and metabolic abnormalities up to a cumulative dose of 10 mg per kg of body weight. The average cumulative intravenous dose required to abort the clinical manifestations in humans is 2.5 mg per kg of body weight. Dantrolene given orally in doses of 1 to 2 mg per kg of body weight four times a day for one to three preoperatively may be prophylactic in known malignant hyperthermia reactors. There are no reported side effects with short-term dantrolene therapy.

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Hazards of Discontinuing Drugs Before Anesthesia

Reserpine therapy for hypertension used to be discontinued before elective operations. Now it is felt that there is less anesthetic risk to hypertensive patients if this medication is continued up to the time of the surgical procedure. In fact, some danger of excessive cardiovascular stress arises if, inadvertently, antihypertensive therapy is not continued.On the other hand, the *Physician's Desk Reference* suggests that drugs such as monoamine oxidase inhibitors, tricyclic antidepressants and propranolol should be discontinued preoperatively. Because discontinuation of these drugs is not without hazard (such as depression, suicide, angina or myocardial infarction), the benefits and risks must be carefully weighed.

Few patients receive monoamine oxidase inhibitors. There interaction with indirect-acting amines is widely recognized and generally avoidable. Further, their interaction with meperidine, resulting in coma, hyperpyrexia and hypertension, although not understood, is also avoidable. However, only a minority of anesthetists view continuing a regimen of monoamine oxidase inhibitors as desirable because the adverse effects are difficult to manage.

Unlike the monoamine oxidase inhibitors, the tricyclic antidepressants do not appear to cause severe adverse effects. While they potentiate the cardiovascular effects of exogenous catecholamines, this interaction can be avoided or controlled. Tachyarrhythmia has been reported following the simultaneous administration of the neuromuscular blocking agent pancuronium (Pavulon) in combination with the inhalation anesthetic agent halothane (Fluothane) to patients receiving long-term imipramine (Imavate, Presamine or Tofranil) therapy. Because this combination of drugs usually can be avoided, tricyclic antidepressants in therapeutic doses can be safely continued perioperatively. However, it should be noted that continuation of tricyclic antidepressants restricts the choice of anesthetic agents.

An initial series of case reports on patients undergoing cardiac operations seemed to support the view that propranolol (Inderal) interacted adversely with inhalation anesthetic drugs to produce severe myocardial depression and impaired ability to respond to cardiovascular stresses such as hemorrhage. However, reports of rebound phenomena after withdrawal of propranolol soon appeared. In hypertensive patients, abrupt withdrawal of propranolol was followed by 2 to 15 days of hypersensitivity to catecholamines. However, the course of hypersensitivity is such that it permits operations to be done within 48 hours of withdrawal. In patients with severe coronary disease and angina, exacerbation of coronary insufficiency symptoms and even acute myocardial infarction and death have been reported. This "rebound" may be the result of continued physical activity or emotional stress on a heart that is no longer protected by the beta-adrenergic blocking drug. In a large controlled study of coronary artery bypass graft patients, those who continued to receive propranolol up to the day of the operation did as well as the patients in whom propranolol therapy was discontinued. It should be noted that these study patients had intensive cardiovascular monitoring and specialists in cardiac anesthesia overseeing their anesthetic care. Nevertheless, if a surgical patient does not have the signs of excessive beta receptor blockade (bradycardia), continuation of propranolol administration does not appear to present unusual difficulties.

Antihypertensive agents should be given up to the time of operation. Clonidine (Catapres), however, presents a special problem because it has a short elimination half-time (8.5 hours) and is not available in parenteral form. In several case reports, perioperative hypertension occurred in patients after clonidine therapy was discontinued. However, in one controlled study only two out of ten patients had hypertension after clonidine was withheld preoperatively. The hypertensive response, if it occurs, can be managed with hydralazine or sodium nitroprusside. One group of investigators has recommended preoperative withdrawal of clonidine and propranolol, when they are given together, and substitution of hydralazine.

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Pharmacological Prophylaxis Against Acid Aspiration

The risk of pulmonary aspiration of gastric contents associated with general anesthesia is of major concern. The inhalation of gastric juice with a pH of less that 2.5 and in a volume exceeding 0.3 ml per kg of body weight results in a severe and intense respiratory distress syndrome. Maneuvers to protect and isolate the airway have been developed; however, accidental aspiration from either reflux or active vomiting still occurs. Therefore, pharmacological agents that will raise intragastric pH, hasten gastric emptying, elevate lower esophageal sphincter tone or decrease the volume of gastric secretion are being investigated.

Oral administration of antacid suspensions effectively raises intragastric pH and has become routine, if not obligatory, in patients at high risk for aspiration, such as pregnant women in labor. However, recent data suggest that aspiration of the antacid suspensions leads to a pulmonary syndrome as severe as acid aspiration itself, with more persistent pathological changes. Nevertheless, while clinical experience with antacid aspiration is limited an conflicting, the use of these agents in appropriate situations is still recommended.

Cimetidine, a gastric histamine H_2 receptor antagonist, substantially elevates gastric pH in many situations when used as a premedicant. It has gained widespread usage, but its efficacy and safety in pregnant women has not yet been confirmed. Further, it does not reliably decrease the volume of gastric contents in preoperative patients and it prolongs the action of some benzodiazepines.

Metoclopramide, a chlorbenzamide derivative will be available soon in the United States. It is an antiemetic agent that accelerates gastric emptying by sensitizing gastric smooth muscle to the action of acetylcholine, as well as having a direct autonomic effect. It has been shown to be effective in pregnant women in labor.

Domperidone, an investigational drug, is a benzimadazole antiemetic that elevates lower esophageal sphincter tone. This agent may have a useful application after further clinical trials are completed.

Reduction in the volume of gastric secretions has been partially successful with anticholinergic agents such as glycopyrrolate. Glypyrrolate also raises gastric pH in some patients. However, both glycopyrrolate and atropine decrease lower esophageal sphincter tone, thereby increasing the risk of reflux. This effect is antagonized by both domperidone and metoclopramide.

Meticulous attention to securing the airway mechanically is the key to the prevention of aspiration pneumonia. However, the use of one or more of the above pharmacological agents may provide extra protection to patients at high risk for aspiration.

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High Frequency Ventilation

Traditional mechanical ventilation involves cuffed endotracheal tubes and large tidal volumes (12 to 15 ml per kg of body weight) given at slow rates (8 to 15 breaths per minute), with or without positive end-expiratory pressure (PEEP). It has been extremely successful in optimizing oxygenation in patients with serious lung disease, but it has serious drawbacks due to the high airway pressures generated, particularly when the lungs are noncompliant. This may lead to various forms of barotrauma (such as pneumothorax or subcutaneous and mediastinal emphysema) as well as cardiovascular effects, including a reduction in cardiac output and blood pressure or an increase in venous pressure leading to raised intracranial pressures, hepatic engorgement or increased renal vascular resistance. Further, it is often difficult to synchronize a patient's breathing with a ventilator without resorting to the use of sedatives, narcotics or muscle relaxants, all of which have certain risks and which obscure useful clinical information, particularly in the presence of neurological disease. Thus, alternative methods of ventilation, including high frequency positive pressure ventilation (HFPPV), have been studied.

There are many devices used for HFPPV (at present each investigator must build his own); however, all are designed to deliver small tidal volumes (less than 3 ml per kg of body weight) at rates which vary from 60 to 2,400 breaths per minute (1 to 40 Hz). At lower rates (less than 5 Hz), most systems employ an "open" circuit with a pulsatile jet of gas injected into the airway by way of an open endotracheal tube or transtracheally. Conventional closed, valved circuits can be used if the ventilator is equipped with small diameter, noncompliant tubing, having minimal compression volumes, and if it has a high-rate capability. High frequency oscillation (HFO) machines may either use a similar technology or employ a simple to-and-fro piston with a single hose circuit by which fresh gas is delivered near the patient (similar to a Mapleson D). With this method, carbon dioxide absorption is unnecessary.

The classic view of respiratory physiology states that very low volumes lead to atelectasis and accumulation of carbon dioxide (because only the "dead space" is ventilated). However, this has been disproved repeatedly by studies using the high frequency ventilation systems. These systems are capable of providing long-term support with normal gas exchange and without evidence of atelectasis, in spite of peak airway pressures of less than 5 to 8 cm of water. However, in the presence of severe lung disease PEEP may still be needed. Gas exchange does not depend on bulk gas movement (hence, anatomical dead space becomes less important); instead it acts as "facilitated diffusion" in which agitation of the intrathoracic gas constantly mixes fresh and alveolar gases.

HFPPV and HFO methods have many advantages. Lower airway pressures may minimize the risks of barotrauma and clearly reduce air leaks from bronchopleural fistulas, thus promoting healing. They may also prove useful in supporting patients following pneumonectomy in whom there is a risk of bronchial stump disruption. These lower pressures may improve cardiac output although this can be offset if PEEP is required. Several groups claim that clearance of secretions is enhanced, possibly because the constant vibration is percussive. Another benefit is the reflex suppression of spontaneous respiratory drive (without hyperventilation), perhaps due to an alteration in stretch receptor stimulation, which can minimize the need for sedatives and ease patient acceptance of the ventilator. This may not be true in the presence of very severe lung disease although some devices also allow simultaneous, spontaneous breathing during HFPPV. HFPPV may also reduce ventilatory-synchronous movement of various organs (such as the brain, lung and diaphragm) making the surgical procedure easier.

High frequency techniques represent a major new approach to mechanical ventilation, although commercial equipment is not yet available. However, it will be several years before all of the benefits and disadvantages are known and the physiology completely understood.

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Isoflurane: A New Inhalation Anesthetic

Isoflurane (Forane) was first synthesized in 1965 by Ross C. Terrell of Ohio Medical Products, following the development of its isomer, enflurane (Ethrane), which has been in clinical use since 1973. Isoflurane has undergone extensive studies in animals and in humans and has been approved by the Food and Drug Administration for use in the United States. It is also used in Canada.

Isoflurane, a fluorinated ether, is a nonflammable, clear colorless, stable liquid that contains no additives or chemical stabilizers. Induction of isoflurane is fairly rapid at 1 percent to 4 percent inspired concentration. This agent has mild pungency, which may limit the rate of induction in some patients, although excessive salivation or tracheobronchial secretions do not appear to be stimulated. The depth of anesthesia can be easily altered by controlling the inspired anesthetic concentration. Recovery from anesthesia is usually smooth and rapid, and no significant incidence of nausea or vomiting has been observed.

Anesthesia is maintained with 0.8 percent to 2 percent inspired concentration of isoflurane. The agent is a potent respiratory depressant and, hence, respiratory status needs to be closely monitored and supported when necessary. This depression is partially reversed by surgical stimulation. Systemic blood pressure decreases with induction of anesthesia as a result of a decline in the peripheral vascular resistance, an effect similar to that of enflurane and halothane. Blood pressure returns toward normal values on commencement of the surgical stimulation. With regard to its cardiac effects, isoflurane is superior to both enflurane and halothane because it does not decrease myocardial function or cardiac output during moderate depth of anesthesia. Isoflurane does not appear to sensitize the myocardium to catecholamines (epinephrine). There is a modest increase in heart rate under isoflurane, irrespective of the anesthetic concentration. This effect is in contrast to that of enflurane, which produces a dose-related increase in heart rate and that of halothane, which causes no increase in heart rate. Isoflurane is free from the central nervous system excitatory properties of its isomer, enflurane. It produces excellent muscle relaxation as does enflurane, is roughly two to three times more effective than halothane, and greatly potentiates all muscle relaxants.

Of all the halogenated anesthetic agents, isoflurane is the least metabolized in humans or animals. This relative stability strongly indicates that the agent should have no potential to produce organ toxicity. Studies carried out in humans and animals also suggest little or no effect on the liver or kidney, and there is no evidence to indicate the carcinogenicity of isoflurane.

Isoflurane claims superiority over several other inhalation anesthetics for its effect on the cardiovascular system, the central nervous system, the neuromuscular system, anesthetic metabolism and organ toxicity. Its drawbacks include a pungent smell, considerable respiratory depression, tachycardia and hypotension. The full potency of this anesthetic agent will not be known until it is administered to several thousand patients for various surgical procedures. Isoflurane is not perfect, but it comes one step closer to being an ideal inhalation anesthetic agent.

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The Role of Ketamine in Obstetric Anesthesia

Despite initial favorable evaluation of therapy with low doses of ketamine (0.5 mg per kg of body weight) in obstetric patients, the drug has not been widely used during delivery for two reasons: First, several subsequent investigators showed significant neonatal depression with higher doses (2 to 5 mg per kg of body weight) of the drug. Although later evidence showed that low doses (0.2 to 0.4 mg per kg of body weight) did not have a substantial depressant effect on newborn infants, the decline in ketamine's use caused by the earlier results persisted. Second, there is a growing, and laudable, trend away from the use of general anesthesia in obstetrics. Consequently, there is no indication for the large doses of ketamine (1 to 2 mg per kg of body weight) used to induce general anesthesia.

Ketamine is becoming more popular as an intravenously administered *analgesic* for the second and third stages of labor. When very low doses of the drug are given women for whom regional or inhalational methods of analgesia are unsuitable, consciousness and patient cooperation are maintained and relief of pain is excellent. Because the mother retains her protective airway reflexes, endotracheal intubation is not required, and high flows of oxygen can be administered by face mask. Some of the other problems often associated with larger doses of ketamine are not seen with the low-dose technique. For example, hypertension and tachycardia occur only rarely, and bad dreams or hallucinations are similarly infrequent.

Two intravenous doses of 5 to 10 mg of ketamine usually will provide sufficient analgesia for a normal, uncomplicated vaginal delivery. Administration of bilateral pudendal nerve blocks or perineal local infiltration will further enhance the effects of the analgesia and will obviate the need for repeated injections during the second and third stages of labor.

Doses of ketamine larger than 1 mg per kg of body weight can have negative effects on the newborn and should, therefore, be avoided in obstetric care. However, very low doses (0.1 to 0.2 mg per kg of body weight) given intravenously provide effective analgesia for the second and third stages of labor without causing significant complications in the mother or infant.

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Issues in Obstetric Anesthesia

Three noteworthy issues in the use of anesthesia in obstetric patients are (1) continuous-infusion epidural analgesic agents (2) the safety of 2-chloroprocaine and (3) the neurobehavioral consequences of epidural anesthesia in newborns.

Continuous-infusion epidural analgesia has recently gained wider acceptance as an efficient tool for regional anesthesia because it allows sophisticated anesthesia to be given safely and efficiently to a larger number of women who are in labor. Bupivacaine, 0.25 percent, is infused in a volume of 6 to 12 ml per hour by constant infusion pump after safe placement of an epidural catheter and response to the drug has been confirmed. Care of the patient includes half-hourly blood pressure measurement and leg lift test to avoid motor blockade. The result is a steady level of analgesia with fewer peaks and valleys of pain, less sympathetic block, less motor loss and lower peak blood levels of bupivacaine than are often seen with intermittent injection.

There have been recent case reports of nerual damage after subarachnoid injection of 2-chloroprocaine, although results of numerous studies in the United States have shown that 2-chloroprocaine is no more toxic than other local anesthetic agents. Large-scale statistical comparisons of epidural anesthetic administration in humans have shown an incidence of neurological injury of 1 in 11,000.

Laboratory animal preparations of nerves exposed to local anesthetic solutions have been compared. Prolonged exposure of mammalian nerves to chloroprocaine produced no evidence of nerve injury. Most physicians who use this agent and the Food and Drug Administration as of December, 1980, agree that 2-chloroprocaine is safe for use in obstetric patients. The advantages of rapid onset, short duration, short plasma half-life and minimal placental transfer justify its continued use as an alternative drug in regional anesthesia.

Results of controversial studies have indicated that obstetric anesthesia may cause brain damage in some newborn infants. The validity of these assertions has been recently challenged by neonatal behavioral scoring techniques, including Brazleton, Scanlon and the newer ABS (Amiel-Tison, Barrier and Shnider). Hodgkinson, Scanlon and others have found no measurable differences in neonatal scores between babies delivered with or without epidural bupivacaine. This conclusion applies equally to babies born by vaginal delivery and by cesarean section. A good result depends on a high standard of anesthetic care, parsimonious anesthetic dosages and promotion of maternal cardiovascular and respiratory well-being.

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Aminophylline, Arrhythmias and Anesthesia

Aminophylline (theophylline ethylenediamine) is the most widely used bronchodilator in the United States. Frequently, it is given preoperatively to asthmatic patients before the anesthetic is administered as well as intraoperatively for the treatment of bronchospasm. Halothane is considered the anesthetic agent of choice for asthmatic patients because of its bronchodilating effect.

There have been no reports of cardiac arrhythmias occurring in patients following intraoperative administration of aminophylline. Investigation of the arrhythmogenic effects of aminophylline given during halothane anesthesia in animals has shown that doses that produce blood levels corresponding to the therapeutic, nonarrhythmogenic range in conscious humans (10 to 20 mg per liter) are likewise not arrhythmogenic in animals. However, studies of the effect of higher, toxic doses of aminophylline (producing levels in the blood above 20 mg per liter) administered to animals during halothane anesthesia have shown that these high levels (which repeatedly have been shown to cause severe cardiac arrhythmias in conscious humans) are, in fact, arrhythmogenic in anesthetized animals.

In recent years, there have been reports of ventricular arrhythmias occurring in patients during halothane anesthesia following preoperative administration of aminophylline. Studies have been done in animals of the arrhythmogenic effects of aminophylline administered before anesthesia induction. Results have shown that even at theophylline levels in the blood that are considered safe in humans, ventricular arrhythmias frequently occur in the animals following induction of halothane anesthesia. In contrast, induction of enflurane anesthesia in animals appears safe even after toxic doses of aminophylline have been given.

On the basis of available information, the following guidelines are suggested for perioperative administration of aminophylline in humans. First, aminophylline given intravenously during halothane anesthesia in doses that produce accepted therapeutic levels (10 to 20 mg per liter) in the blood is unlikely to cause cardiac arrhythmias. A safe dose that is likely to produce such a level is 5 mg per kg of body weight for a patient who has not received aminophylline in the previous 24 hours (1 mg of aminophylline per kg of body weight will produce a 2 mg per kg of body weight rise in blood level). The drug should be diluted in 50 ml of sterile fluid and administered only by way of a peripheral intravenous route over five minutes. *Aminophylline given by way of a central venous line or pulmonary artery catheter often results in sudden death.*

Second, if aminophylline has been administered preoperatively, induction of halothane anesthesia may produce severe ventricular arrhythmias, even with circulating theophylline levels normally considered therapeutic and safe in conscious patients. Enflurane anesthesia used after preoperative administration of aminophylline, however, appears safe and unlikely to precipitate cardiac arrhythmias.

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Butorphanol and Nalbuphine: Two New Potent Analgesic Agents

Two new analgesic drugs have been released recently for the treatment of moderate to severe pain. Like pentazocine, these two drugs have mixed agonist-antagonist properties, which, it is hoped, will produce the *perfect balance* of analgesia without psychological or physiological effects.

Butorphanol tartrate, chemically related to levorphanol tartrate, is available in a 1 to 2 mg per ml solution; on a milligram basis, it has 3½ to 7 times the potency of morphine. Following intramuscular administration, it is rapidly absorbed, achieving a peak plasma level in 30 to 60 minutes, with a half-life of three hours.

In equianalgesic doses, respiration is depressed similarly with morphine or butorphanol. Interestingly, in increase in dose of butorphanol reportedly increases the duration, but not the degree, of respiratory depression. The hemodynamic effects of butorphanol resemble those of pentazocine, causing an increase in pulmonary artery and right atrial pressure with a decrease in cardiac output. However, the unpleasant psychotomimetic side effects reported with pentazocine occur only rarely with butorphanol. Euphoria does not result from butophanol administration, and its addiction potential is judged to be low.

Nalbuphine, chemically related to oxymorphone and naloxone, is available in a 10 mg per ml solution; on a milligram basis it is variably reported to be equal to, or a half to a third as potent as, morphine. Following intramuscular administration it achieves effect in 15 minutes and maintains activity for three to six hours. The respiratory effects of nalbuphine resemble morphine but, like butorphanol, there is a "ceiling" beyond which a further increase in dose does not increase the degree of depression. Cardiovascular effects differ from those of butorphanol, however, in that nalbuphine more nearly resembles morphine, having no significant impact in most patients on cardiac output or arterial, right atrial or pulmonary artery pressure. Nalbuphine has been given with favorable results to patients following myocardial infarction. The abuse potential of nalbuphine is judged low but is probably slightly greater than that of butorphanol.

The actions of both drugs are reversed by naloxone and they can precipitate withdrawal reactions in patients receiving long-term opiate therapy. At present they are not classified under the Controlled Substances Act. However, caution is advised—initially, meperidine and pentazocine were also though to be nonaddicting. Butorphanol and nalbuphine should be treated like any potent parenteral mood-altering drug until time proves this unnecessary.

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Oxygen Monitoring

In clinical practice oxygen monitoring includes the sensing of gaseous oxygen in inspired and expired air, dissolved oxygen in arterial and venous blood, oxygen saturation in blood and tissue and whole body oxygen uptake. Rapidly progressing technology is providing monitoring instruments that are easier to use and less invasive.

Gaseous oxygen is monitored best by the polarographic technique. Four major manufacturers (Critikon, Instrumentation Laboratory, Teledyne and Beckman) produce such monitors, which cost between \$300 and \$600. The sensors, which are mounted directly in a patient's breathing circuit, have a life time of 3 to 12 months. These monitors, with direct readout and alarms, are considered standard equipment in many hospitals. More sophisticated monitors, including multiplexed mass spectrometers, paramagnetic sensors and heated fuel cells, are more accurate; however, because of their expense and size are used mainly as research tools.

Dissolved oxygen in arterial and venous blood is usually measured offline by bench instruments. New automated blood gas analyzers (Radiometer, Corning, Instrumentation Laboratory and Technicon) use microprocessors to perform automatic calibration, temperature compensation and simple calculations. Automated machines are two to three times more expensive than manual machines but they often replace a laboratory technician. A continuous monitor of dissolved oxygen is available from Critikon, but it has been designed for extracorporeal monitoring. Transcutaneous oxygen ($TcPo_2$) monitors, using heated Clark electrodes, provide information on arterial oxygen pressure (Pao_2) without the need for arterial puncture (Biochem, Radiometer, Litton, Novametrix and Roche). It must be realized that in adults, $TcPo_2$ is a measure of oxygen delivery and not Pao_2.

The oxygen saturation of arterial and venous blood can be measured offline with bench infrared (IR) instruments (Radiometer, Instrumentation Laboratory) or in vivo, using fiberoptic catheters (Physio-Control). The fiberoptic arterial and Swan-Ganz catheters are used to measure oxygen saturation by way of IR reflectance oximetry at the tip of a catheter. This method is invasive, the catheters are expensive (\$50 to \$70) and clot formation on the catheter tip can be a problem. Oxygen saturation can be monitored noninvasively using IR absorption through either the ear lobe or finger. (Hewlett-Packard and Corning) Because multiple wavelengths are needed to compensate for differences in skin pigmentation and movement artifacts, these instruments are cumbersome and expensive. Oxygen content, sometimes a more meaningful determination, is measured only offline. (Cavitron).

The monitoring of oxygen at the tissue level is useful in detecting the shutdown of peripheral blood flow as an early indication of shock. Bare platinum wires have been used for monitoring in research studies but not for patient monitoring because of noise considerations. Solid state sensors and miniature polarographic sensors are being investigated.

Whole body oxygen consumption (Vo_2) is an indirect measure of a patient's metabolic requirements and may be used to monitor the incidence of shock. During administration of anesthesia, the Vo_2 may be related to depth of anesthesia. To monitor Vo_2 in the intensive care unit (ICU), mass spectrometer systems are multiplexed between several beds. Thus patients can share the expense of these sophisticated systems (Perkin-Elmer, Centronics and Cemetron). In the future Vo_2 monitoring will be an integral part of the ICU ventilator. During anesthesia, Vo_2 has been monitored and studied using closed-circuit breathing circuits, in which the inflow rate of fresh oxygen is a measure of Vo_2.

Oxygen monitoring technology is rapidly progressing. Soon gaseous monitoring will become standard equipment on each breathing circuit. Additional improvements to and experience with transcutaneous techniques should make it possible to monitor Pao_2 and oxygen saturation continuously and noninvasively. Further, continuous monitoring of gas exchange, Vo_2 and Vco_2 will become a standard procedure for patients needing ventilation.

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Barbiturates and Cerebral Ischemia

Barbiturates can reduce cerebral metabolic rate, cerebral blood flow and cerebral blood volume by as much as 50 percent, and the administration of these drugs is a well-known method for controlling or reducing intracranial pressure (ICP). Recently, they have been advocated for the treatment of various forms of cerebral ischemic, hypoxic or anoxic insults (such as transient cardiac arrest, stroke, near drowning or asphyxia) or for the intraoperative "protection" (pretreatment) of patients at risk for such insults as occlusion of a carotid or cerebral artery, profound hypotension or circulatory arrest. The rationale for their use is the theory that tissue damage can be minimized if metabolic demand is reduced at a time of decreased oxygen and nutrient delivery, although other ideas have been presented (such as free radical scavenging or redistribution of regional cerebral blood flow). Unfortunately, there are discrepancies between this theory, experimental data and clinical observations.

There is laboratory evidence that pretreatment with barbiturates protects the brain in situations of *incomplete* ischemia or hyposia (not anoxia). Barbiturate anesthesia prolongs survival in hypoxic mice, slows the metabolic deterioration of the brain (such as lactate accumulation and adenosine triphosphate depletion) during profound hypotension (blood pressure less than 40 mm of mercury) and can also reduce the size of experimental strokes produced by middle cerebral artery occlusion, at least if given before cell death has occurred (within one to two hours after occlusion). However, large doses (sufficient to produce an isoelectric EEG) are needed. Unfortunately, there are no data on humans that confirm these observations, and the clinical relevance is limited.

There is no evidence that treatment begun after reperfusion or reoxygenation is useful, except to control ICP, and there are few opportunities to "treat" patients before severe hypoxia. Similarly, the cardiovascular depressant effects make it unwise to administer large doses of barbiturates during accidental hypotension. Elective protection before planned profound hypotension (not *routine* hypotensive anesthesia) would be better achieved by hypothermia, which also can be more readily reversed, particularly if cardiopulmonary bypass is used. Barbiturates might be considered in conjunction with "emergency"-induced hypotension when there is a risk of brain damage, such as after intraoperative rupture of a cerebral aneurysm. However, the only anecdotal evidence concerns cases of elective or emergency cerebrovascular occlusion, at least when the tissue is eventually revascularized. Unfortunately, there are no post-stroke studies, principally because of the obvious concern with cardiovascular and respiratory depression in elderly patients. Therefore, with the exception of the hypothetical uses just mentioned, it is difficult to support the use of these drugs. Barbiturates should not be used routinely as an adjunct to carotid endarterectomy, because most patients tolerate transient cross-clamping without problems. If clamping produces ischemia (EEG depression) that cannot be reversed by raising blood pressure or by shunt placement, such use might be considered.

The most controversial use of these drugs is after resuscitation from a cardiac arrest. Recent debate was prompted by a single primate study, which has been questioned on both procedural and theoretical gounds. Other studies have not confirmed the efficacy of barbiturates given before or after a period of circulatory arrest, in contrast to the proven usefulness of hypothermia before the time of the arrest. More importantly, uncontrolled trials have shown no benefit, and results from a preliminary nonrandomized study of thiopental given after resuscitation have shown no improvements in mortality or neurological morbidity. Therefore, there is *no* evidence supporting the "blanket" administration of these drugs to patients following cardiac arrest, although they may prove useful in treating postanoxic seizures in some persons. There is, however, some circumstantial evidence supporting an aggressive approach to these patients, and careful respiratory and cardiovascular support may be of value.

In spite of intriguing laboratory evidence, the clinical role of barbiturates in brain protection remains unproved, except for control of ICP (which probably has nothing to do with "protection" per se). In highly select intraoperative situations, their use can be justified—if used with great caution. However, there is no role for these drugs in treating patients following cardiac arrest.

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Computed Tomographic Scanning of the Brain

SPONSORED BY THE NATIONAL INSTITUTE OF NEUROLOGICAL AND COMMUNICATIVE DISORDERS AND STROKE

Assisted by the Office for Medical Applications of Research, NIH

Introduction

The National Institutes of Health consensus development program brings together biomedical research scientists, practicing physicians, consumers, and others as appropriate, in an effort to reach general agreement on the safety and efficacy of a medical technology. That technology may be a drug, device, or medical or surgical procedure.

Following consensus meetings, summaries of conclusions and recommendations issued by consensus panels are widely distributed to the research, practicing, and lay communities. All shades of opinion are reflected in those summaries.

At NIH, the Office for Medical Applications of Research (OMAR) is responsible for coordination of the consensus development program. OMAR assists the individual NIH institutes, which sponsor the conferences, in this effort.

A Consensus Development Conference held at the National Institutes of Health on November 4, 5, and 6, 1981, reviewed scientific evidence related to computed tomographic scanning (CT) of the brain.

On the first two days of the meeting, a Consensus Development Panel and members of the audience heard evidence presented on the following key issues:

> What are the indications and contraindications for employing CT scanning for diagnosis of intracranial lesions? How much radiation is delivered by presently available CT scan equipment? To what extent has CT scanning influenced the management of intracranial disorders? Has the availability of CT brain scanning influenced the use of other methods of imaging the brain? What is the practical limit of definition of CT scanning?

Members of the panel included physicians and scientists representing biomedical research, radiology, pediatric and adult neurology, neurosurgery, radiation therapy, radiation physics, critical care medicine, family practice, hospital administration, health economics, and other fields relevant to a discussion of CT.

CT is a remarkable new development in radiographic imaging which, in only 8 years, has transformed the diagnosis and much of the management of structural disease of the brain and its surrounding tissue.

Presentation by experts from a variety of fields indicated that CT is a safe, accurate, and powerful tool in the primary diagnosis of, among other conditions, brain tumors, brain hemorrhages, effects of major head injury, and certain infections of the brain. Given its speed, accuracy, and low radiation dosage, CT has displaced a number of other radiologic diagnostic procedures, many of which are, in comparison, more uncomfortable, more dangerous, and more costly to the patient.

The panel considered the geographic distribution of CT scanners and the current patterns of diagnostic usage. Two important considerations emerged. It appears that in the U.S. today, CT may not be sufficiently available for the public to derive the full benefit of this diagnostic tool. Evidence points to an insufficient number of instruments in several large metropolitan areas, in medically underserved areas, and in some sparsely populated regions where the prevalence of head trauma is high. In some instances, however, the indiscriminate use of CT has occurred in patients unlikely to have structural disease, resulting in displacement of patients for whom this technology is critical. Accordingly, this consensus report suggests appropriate criteria for the use of CT in present medical practice.

NIH Consensus Development Conference Summary Vol. 4, No. 2.

EDITOR'S NOTE: For further information about the "NIH Consensus Development Conference Summaries," contact the Office for Medical Applications of Research, Building 1, Room 216, National Institutes of Health, Bethesda, Maryland 20205.

1. What are the indications for employing CT scanning as a primary or secondary diagnostic tool for intracranial lesions?

CT is the most useful diagnostic study available for a number of intracranial disorders. Its efficacy, particularly in the detection of traumatic and neoplastic lesions, is well established. There is evidence that CT has been a major factor in decreasing morbidity and mortality, especially in severe head injury and brain abscess. The presence of the former or suspicion of the latter present clear indications for CT.

CT detection of intracranial tumors is now so well established that the suspicion of any intracranial mass lesion from history or neurological examination constitutes a strong indication for this procedure. Spontaneous intracranial hemorrhage is also readily detected by CT and often represents another prime indication. Suspicion of arteriovenous malformation, hydrocephalus, herpes encephalitis, parasitic infestations, and progressive degenerative diseases of the brain generally constitutes an indication for CT.

For most cerebral vascular ischemic events, including transient ischemic attacks (TIA's), CT may not be required to make the diagnosis. The procedure, if available, is a helpful adjunct when using anticoagulant therapy. CT will clearly distinguish infarction from hemorrhage when that distinction must be made. CT will also detect lesions such as meningiomas or subdural hematomas. This discrimination is particularly important in the small percentage of patients with these conditions who have transient symptoms similar to TIA.

CT should not be employed as a routine screening procedure when a low diagnostic yield is anticipated. There is little indication for the procedure following minor head trauma, simple or periodic headache, syncope, or dizziness unattended by other neurological symptoms or signs. Most patients with headache should be considered for CT scanning only if the symptom is severe, constant, unusual, or associated with abnormal neurological signs.

In adults with seizure disorders the indications are variable. CT is essential when seeking a potential structural cause of complex partial (temporal lobe/psychomotor) or focal seizures and is indicated in any adult with a recent onset of seizures. The finding of an obvious clinical cause for seizures such as a withdrawal state of metabolic disturbance usually obviates the need for CT. If seizures remain uncontrolled and the initial CT was normal, the scan should be repeated at appropriate intervals.

In infants and children, CT is useful as a primary diagnostic tool in the evaluation of intracranial hemorrhage and mass lesions. CT may be used to evaluate patients postoperatively and those who have received radiotherapy.

In children, CT should be considered a primary diagnostic modality in evaluation of severe head trauma, other causes of increased intracranial pressure, undiagnosed coma, progressive focal neurological signs or symptoms, megalocephaly, and selected neurocutaneous syndromes. CT will also detect major congenital anomalies of the brain. It can detect perinatal intraventricular hemorrhage, but transfontanel ultrasonography is the preferred diagnostic procedure in infants under one year of age because of the portability of the ultrasonic equipment and the ease of performing this test.

CT is not necessary in evaluating the majority of children with developmental retardation, cerebral palsy, seizure disorders, or headaches, because the presence of a surgically treatable lesion is extremely low. The clinical situation must, in each case, be considered individually.

2. Are there specific contraindications?

CT is a remarkably safe diagnostic procedure and there are no absolute contraindications to its use. Its employment carries, nevertheless, potential hazards, as does any diagnostic procedure. These may include: separation of a critically ill patient from intensive medical and nursing care; an adverse response to contrast material; and a possible delay in applying emergency life-saving treatment to immediate life-threatening conditions such as acute arterial epidural hematoma. CT scanning facilities should have immediately available the staff and equipment to manage cardiorespiratory and neurological emergencies. The staff itself should be skilled in methods to prevent movement artifacts.

The use of contrast agents, usually administered intravenously, increases accuracy and may assist in characterizing lesions. The benefits of enhancement must be balanced against the increased risk to the patient should an adverse reaction occur. The total risk of the use of contrast materials is small and the incidence of severe reactions does not exceed 0.04%. Reactions, when they do occur, include allergic manifestations, hypotension, congestive heart failure, the development of renal insufficiency, and possibly adverse effects on the brain. The likelihood of complications is increased by advanced age, the presence of diabetes, cardiac, renal, or cerebral vascular disease and by the administration of large doses of contrast material.

3. How much radiation is delivered during use of currently available CT scan equipment, and how is this dosage commonly expressed?

CT irradiates a transverse section of the skull with a narrow x-ray beam, commonly 10 mm wide in equipment currently available. No single number can completely characterize the dose delivered to that section because the dose is not completely uniform throughout.

For many purposes, the use of an average dose per section suffices. Typically, 10 adjacent transverse scan sections, each of 10 mm width are sufficient for examination of the entire brain. The average dose to the entire brain can be estimated from the average dose to each section. In addition to the average dose, the surface dose and doses of other points may also be stated.

The dose delivered to the brain depends upon individual machine characteristics and mode of operation which include the kilovoltage and milliamperage of the x-ray tube, the exposure time and tube current, the beam filtration, the x-ray target-to-patient distance, the CT detectors used, the scan angle, etc. Because modern CT scanners utilize narrow x-ray beams with good radiation shielding, there is little dose delivered to tissues outside the imaged volume. Doses to sensitive organs, such as the thyroid gland and the gonads, which are well outside the useful beam, are much less than that received by the brain. The radiation dose to the lens of the eye is low if it is outside of the area scanned. Scanning should exclude the eye unless it cannot be avoided. Adequate maintenance and proper use of the scanner by trained technicians is necessary to insure that the radiation dose is the minimum required for the examination.

The unit by which dose is expressed is currently undergoing a transition from the commonly used rad (100 ergs/gram) to the gray (1 joule/kilogram). The relationship between the rad and the gray is: 1 gray = 100 rad. In this report, the unit centigray (cGy) will be used (one centigray = 1 rad). The average dose to the brain for a complete scan series ranges from about 1-10 cGy. This range is comparable to or less than the dose from many other procedures commonly used in diagnostic or dental radiology. Thus, as an x-ray procedure, routine CT does not deliver a particularly high radiation dose.

As is the case for all x-ray studies, particular consideration is needed in the examination of infants and children. The effects of repeated cumulative low-level radiation doses to the immature, developing brain (particularly from birth to two years of age) are as yet unknown. Special caution must be exercised in ordering multiple CT scans. In the infant, as noted earlier, ultrasound is often the preferred modality to monitor the status of abnormalities such as hydrocephalus.

Certain practices, including repeated scans, can increase the dose delivered. Special techniques—such as overlapping sections to detect small abnormalities, very thin sections to permit multiplanar reformatting,* slow scans to improve resolution, and dynamic scanning**—all increase the radiation dose. These studies may contribute useful information in specific cases but they are not recommended for routine use.

4. To what extent has CT scanning influenced the management of intracranial disorders, such as malignancy, trauma, vascular anomalies, and cerebrovascular disease?

CT has had a major influence in the management of many intracranial disorders. It is a procedure entailing minimal discomfort and morbidity while producing a high degree of diagnostic accuracy. Lowered morbidity and mortality result from the decreased use of invasive diagnostic procedures.

Prompt employment of CT has improved the management of severe head trauma. The indentification of traumatic intracranial mass lesions causing increased intracranial pressure has led to early surgical treatment of hematomas, the elimination of unnecessary surgical explorations, and more effective medical management. Evidence suggests that early surgical removal, i.e., within four hours, of acute subdural hematomas has decreased mortality and morbidity. In patients with head trauma sequential CT has permitted the identification of expanding intracranial subacute and chronic hematomas leading to an improved outcome.

The management and prognosis of patients with brain abscess have been substantially improved since the introduction of CT. The improvement is probably the result of early diagnosis permitting prompt institution of antibiotic therapy and more accurate determination of whether and when surgical intervention is needed.

In primary brain tumors, and in contrast to other diagnostic modalities, the use of CT has resulted in the detection of smaller lesions and more accurate localization; lowered surgical morbidity and mortality and a decreased length of hospital stay have been the result. In metastatic brain tumors, CT identifies and localizes single and multiple lesions earlier than other techniques, thus permitting optimal treatment of both the metastatic and primary lesions. Postoperative complications due to hemorrhage or edema are identified more accurately, resulting in better treatment. Planning of radiation treatment of brain tumors is aided by CT as is follow-up evaluation after surgery, radiotherapy, and chemotherapy.

CT will usually differentiate between ischemic and hemorrhagic intracranial lesions. This distinction permits selection of patients for medical or surgical therapy. In subarachnoid hemorrhage, CT can obviate the need for lumbar puncture by the demonstration of subarachnoid blood in a high percentage of cases scanned soon after the hemorrhage. It can be helpful in localizing the source of the bleeding and may be useful in predicting development of vasospasm. CT can help to identify the ruptured aneurysm in patients harboring multiple aneurysms and sometimes shows unruptured asymptomatic or symptomatic aneurysms or arteriovenous malformations. In selected cases, this capability has led to better treatment of aneurysms and arteriovenous malformations and the prevention of late complications from these lesions.

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*A technique in which the data obtained from a series of scans made in one CT plane are reprocessed in the computer to produce images of sections in other planes through the head.

**Multiple sections taken at one location in rapid sequence to observe changing patterns of contrast enhancement.

5. Has the availability of CT brain scanning influenced the use of other methods for imaging the brain?

The superior ability of the CT examination in the detection of intracranial and intracerebral disease processes has profoundly altered the use of several preexisting radiographic methods for examining the brain. The modalities of skull roentgenography, geometric cranial tomography, cerebral angiography (arterial and venous), pneumoencephalography, positive contrast cisternography, radionuclide brain scanning, and ultrasonic echoencephalography have all decreased in use. Some of these examinations, notably the most invasive, those causing significant patient discomfort, or those with nonspecific diagnostic results have been affected more than others. Pneumoencephalography, radionuclide scans, and ultrasonic echoencephalography have almost disappeared from the neuroradiologic armamentarium where CT has been available. The utilization of skull roentgenography, geometric cranial tomography, and positive contrast cisternography has declined more recently as "modern" high resolution CT has become available. Such scanners provide bony anatomic information in addition to the unique low-density soft tissue data, available only with CT.

Although the use of cerebral angiography has not diminished to the same extent as the above-mentioned procedures, it is being used less frequently as a screening or diagnostic procedure.

The developments enumerated above have had a favorable impact upon health care delivery. CT scanning has often reduced risk and discomfort for patients. Data indicate that the costs of CT in diagnosis have been substantially offset by a reduction in costs resulting from discontinued procedures and the elimination of equipment needed to carry them out. In some cases net costs of diagnoses have even been reduced. The panel heard evidence that the use of CT in outpatient diagnosis holds the potential for reducing hospital admissions and shortening hospital stay.

The success of CT scanning using x-ray has stimulated interest in tomographic imaging with other radiation sources. Similar computer techniques are being used to reconstruct images of the distribution of radioactive isotopes within the brain, procedures called emission computed tomography (ECT). Two forms of such techniques have been developed related to the type of radioactive materials and the detection system employed. These are single photon ECT (SPECT) and positron emission tomography (PET) scanning. SPECT and PET are able to measure functional variables such as local cerebral metabolism and blood flow that are not measured by CT. They disclose increased vessel permeability when present, which may also be detected on CT by contrast media enhancement. The spatial resolution of these techniques is less than that of CT, and as an imaging device the definition of the anatomic position of the measured function is limited with SPECT and PET. At present, these modalities are being applied in a limited number of institutions and their clinical role in the evaluation of stroke, epilepsy, and the metabolic aspects associated with mental disorders is the subject of ongoing research.

Recently, nuclear magnetic resonance (NMR), a technique using nonionizing forms of energy, has been used to produce sectional images of the human body. A strong magnetic field used in conjunction with a radiofrequency oscillating magnetic field, induces signals from atomic nuclei in tissues. These signals are reconstructed by a computer into sectional images in any plane in the head or body. The significance of the technique in clinical diagnosis remains to be determined. The potential advantages of NMR as compared to CT are the possibilities of providing improved imaging, and of identifying the chemical state of some important nuclei from which energy metabolism can be inferred at low resolution. In addition, the potential hazards associated with ionizing radiation are avoided by NMR. There are no known deleterious effects on tissues or organ systems from the magnetic fields and radiofrequency power densities presently used. The extent to which tissue characterization techniques will yield clinically useful information at practical financial costs has yet to be established.

6. What is the practical limit of definition and resolution in CT scanning that may preclude its value in the diagnosis of brain disease?

CT scanners are designed to detect morphologic abnormalities of the brain. In the opinion of the Panel, most contemporary scanners meet this goal with a high degree of accuracy. They discriminate among lesions depending on contrast and size. The lower limit of resolution is difficult to define, but some scanners are capable of detecting pituitary adenomas as small as 3 mm. Unfortunately, there is no way to know how many "negative" examinations are truly negative or simply due to limitations in the imaging method.

Current limitations in the quality of CT scans lie in spatial and contrast resolution and in scan speed. Dramatic improvements have occurred in these factors since 1973, but it is unlikely that this pace of improvement can be maintained. Improvement in contrast resolution, or the ability to detect a small signal against a noisy background, without increasing the radiation dose, is dependent on increasing dose efficiency which is approaching its theoretical limit. Spatial resolution is dependent on improvements in detector and semiconductor technology and can be expected to improve as these technologies advance. An increase in data obtained from selective sampling will lead to optimizing detection for a given signal to noise ratio; however, to obtain quantitative certainty commensurate with the improved sensitivity, radiation dose must be increased. Scan speed is largely limited by x-ray tube output and the ability of the x-ray tube anode to dissipate heat. New developments in x-ray tube design will lead to increases in scan speed.

Thus cost and the potential risk of increased radiation dose are the major practical constraints on further advancements in CT technology.

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A bibliography on Computed Tomographic Scanning of the Brain is available from the Office for Medical Applications of Research, Building 1, Room 216, NIH, Bethesda, Maryland 20205. This bibliography was prepared by the Stroke and Trauma Program, National Institute of Neurological and Communicative Disorders and Stroke.

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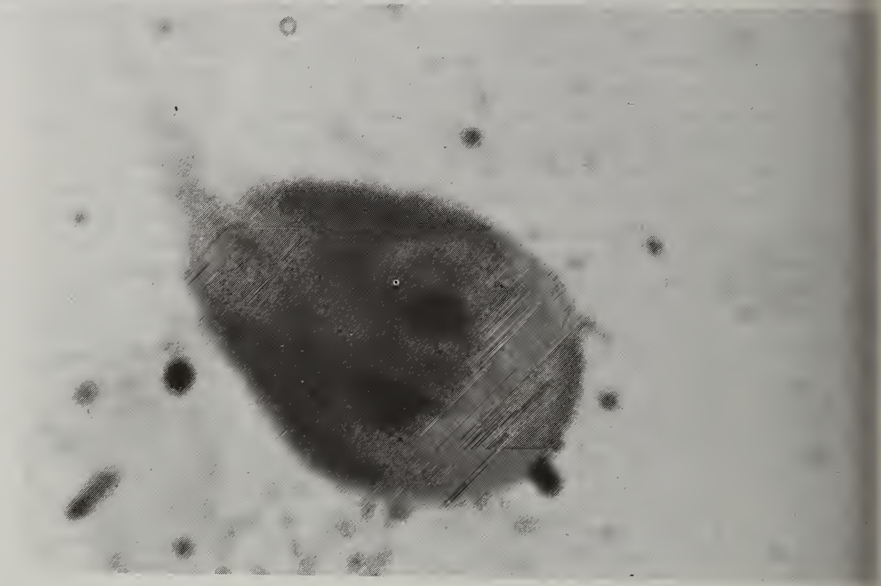

Giardia lamblia

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AMA Expands Its Services to the Profession and the Public

ORVAN W. HESS, M.D.

The American Medical Association has recently undertaken projects which will augment services it provides for patients and physicians by (1) making available a new means of access to information on medical diagnosis and methods of therapy and (2) by extending its role in technology assessment.

I. Through a Medical Information Network, employing a computerized system under joint development with General Telephone and Electronics, the AMA will be able to disseminate up-to-the-minute protocols of clinical interest and other information concerning health care to physicians, allied health professionals, hospital administrators and others at computer terminals widely distributed across the nation. The tremendous potential value of the application of this type of instant communication is clear.

II. The AMA has had a long-standing involvement in the assessment and dissemination of knowledge concerning progress in technology through its Journal and other publications. Indeed, the Council on Scientific Affairs,* since its creation in 1976 with the assistance of staff often augmented by informed panels and other sources, has published numerous reports on diagnostic and therapeutic technologies. However, these reports have not been primarily aimed at the recognition of new technologies or the comparative value of new and old technologies used for a specific medical indication.

In recent years there has been a proliferation of procedures and technologies devised for diagnosis and treatment as part of the delivery of health care. As the public, business, industry, government agencies and the medical profession have become aware of the hazards as well as the benefits of some of the developments in medical technology, and as the costs associated with their application has increased, "the AMA has recognized the need to extend its activities for searching out and assessing new and obsolete medical technologies." In addition to its current activities in serving the public and the profession, the AMA will "add a capability to examine those medical technologies that are passing from experimental or investigational to accepted forms of treatment and to define, where possible, the indications for their use." Cognizant of the existence of important issues and concerns, the Council on Scientific Affairs recommended and the Board of Trustees approved the development of a plan "to address those technologies it deems important and to respond to inquiries—as to their safety and effectiveness." The project for Diagnostic and Therapeutic Technology Assessment (DATTA) is

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*The functions of the Council on Scientific Affairs are:

To advise on substantial and promising developments in the scientific aspects of medicine and biomedical research that warrant public attention;

To advise on professional and public information activities that might be undertaken by the AMA in the field of scientific medicine, and to assist in the preparation of policy positions on scientific issues raised by the public media;

To advise on policy positions on aspects of government's support, involvement, or control of biomedical research;

To advise on opportunities to coordinate or cooperate with the scientific activities of national medical specialty societies, voluntary health agencies, other professional organizations, and government agencies;

To consider and evaluate the benefits that might be derived from joint development of domestic and international programs on scientific affairs;

To propose and evaluate activities that might be undertaken by the AMA as major scientific projects, either individually or jointly with state and local medical societies.

ORVAN W. HESS, M.D., CSMS Delegate to the American Medical Association and Clinical Professor of Obstetrics and Gynecology, Yale University School of Medicine.

designed to augment, not replace, the AMA's current efforts to provide information on assessment of technologies and to respond to inquiries on medical technology submitted in accordance with criteria established by the AMA on recommendation of the Council on Scientific Affairs. The objective is to provide a readily available body of "reference information derived from reliable and authoritative sources." A staff group will be established to which those inquiries, made directly to the AMA staff, may be referred when deemed necessary.

In addition, a reference panel of several hundred physician/scientists will be appointed by the Council on Scientific Affairs from nominees solicited from all segments of the AMA, including: State Medical Societies, Specialty Societies, Sections on Medical Schools and other groups represented in the House of Delegates and Councils of the AMA. It will include physicians engaged in the practice of medicine, medical education or in medical science and research. Inquiries will be assigned to informed members and responses will be based upon a consensus of panelists. Special studies, conferences or reports may be called by the Council on Scientific Affairs as indicated. In general, responses will "follow a pattern describing the therapy or procedure under question and explaining the opinion as to its safety and effectiveness."

The project (DATTA) is readily discernible as a timely and important service. It adds a significant new dimension to previously existing AMA considerations in reporting medical technologies and their application to health care. Involvement of professionals, individually or on panels comprised of persons knowledgeable in the field as proposed by DATTA, is an indispensable ingredient for an adequate assessment of medical technologies. An approach of this type can provide authoritative reports and opinions useful as a databank of reference material for numerous interested parties, including industry and government in their deliberations.

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Statement of the American Medical Association

to the

Subcommittee on Separation of Powers

Judiciary Committee U.S. Senate

Presented by

JOSEPH F. BOYLE, M.D.

To Provide That Human Life Shall Be Deemed To Exist From Conception

Mr. Chairman and Members of the Committee:

I am Joseph F. Boyle, M.D., a physician in the practice of medicine in Los Angeles, California. I am currently Chairman of the Board of Trustees of the American Medical Association. Accompanying me today is Harry N. Peterson, Director of AMA's Division of Legislative Activities.

The American Medical Association is pleased to respond to an invitation to present its views on S. 158, a bill that would statutorily declare as national policy that "human" life begins at conception for the purpose of certain constitutional protections guaranteed by the 14th Amendment to the U.S. Constitution. This bill, having assumed that human life begins at conception, is designed to prohibit state governments from enacting laws that would deprive a fetus "of life without due process of law" from the time of conception. One of the intended purposes of this legislation would be to prohibit states from allowing abortions, without regard to the circumstances of the pregnancy. More specifically, it seeks to deprive women of rights the Supreme Court found were guaranteed under the Constitution.

The operative portion of the legislation states that "for the purpose of enforcing the obligation of the States under the 14th Amendment not to deprive persons of life without due process of law, human life shall be deemed to exist from conception, without regard to race, sex, age, health, defect, or condition of dependency; and for this purpose 'person' shall include all human life as defined herein."

The central assumption contained in the legislation, Mr. Chairman, is the proposed Congressional finding in the bill that "present day scientific evidence indicates a significant likelihood that actual human life exists from conception." Implicit in the bill is the assumption that there is a "scientific consensus" in support of that view. In our opinion this assumption is not correct.

In asserting the lack of a "scientific consensus," we join the many medical and scientific witnesses that hold a similar view. In addition, while the prestigious National Academy of Sciences has not testified here, that body has reacted to this bill and has strongly objected that the statement that "present day scientific evidence indicates a significant likelihood that actual human life exists from conception" cannot stand up to the scrutiny of science.

Mr. Chairman, the American Medical Association speaks today in opposition to S. 158.

The issues raised by this bill as to when human life begins go far beyond the realm of medical science and into social, religious, philosophical, ethical and moral concerns. The issue is unsolvable solely from a medical and scientific view. Based on current scientific knowledge, the point in time when qualities of a human "person" attach to a fetus cannot be stated as a settled scientific matter. Moreover, while technologic and scientific advances have greatly expanded our ability to determine the various stages of fetal development, one point central to the proposal—the moment of conception *in vivo*—cannot be established. Not even the pregnant woman is aware when that moment has occurred.

Though medical science cannot say when the status of "person" or "human life" attaches to a fetus, this is not to say that the medical profession does not have insights to offer to those in society who may consider the enormously complex and sensitive social issues being examined by this Committee.

The practical effects of the proposed legislation are staggering. One fact is inescapably clear: passage of this bill would have an adverse impact on critical physician-patient relationships and would create endless medical, ethical and legal difficulties for the people of this nation. A physician could face serious dilemmas in advising pregnant patients. Under the bill, the physician would be responsible for the welfare of every fetus whose legal and health interest would, in the eyes of the law, be equal to, but may be in conflict with, those of the woman.

Women would be faced with critical personal decisions affecting their health and the entire course of their lives, decisions difficult to make today that would be made even more painful by the elevation by law of a fetus to a legal person. Would the law allow a woman to continue to consent on behalf of the fetus?

Mr. Chairman, there are numerous specific circumstances that physicians would face, including life-threatening emergencies, in treating women who might be pregnant:

Circumstances presenting an extreme or high risk to the life of the woman:

Ectopic pregnancy

A pregnancy with implantation in the tubes rather than in the body of the uterus. If untreated, this usually results in the death of the woman. There is one ectopic pregnancy for every 120 deliveries.

Does the physician "protect" the usually unsavable fetus and watch the almost certain demise of the woman who goes untreated? How is the physician to proceed, and on whose directives?

Miscarriage (Incomplete spontaneous abortion)

Ten percent of all pregnancies end in spontaneous abortion. In the course of this, the woman's life may be threatened by uncontrolled hemorrhage.

Given that 20% of all women have some bleeding early in a pregnancy, how is the physician to determine those instances that warrant an emptying of the uterus, the indicated procedure, to end bleeding? Are those judgments and actions forbidden by the proposed statutory scheme?

Malignant embryo

Any type of malignant change in the embryo. It will usually metastasize to the woman or produce local destruction—a life-threatening condition.

Cardiovascular conditions

In women with significant cardiac disease, such as rheumatic heart disease, pregnancy can frequently lead to heart failure and death. Death of the woman results in approximately 50% of the cases.

Medical conditions which are aggravated by pregnancy

Pregnancy causes severe adverse affects in a woman's underlying illness, effects which often do not regress after termination of the pregnancy (for example, neurologic damage with patients with multiple sclerosis or collagen damage in patients with systemic lupus erythematosis).

Prescription drug intervention

In treating women with mania, lithium is the preferred drug (well evaluated and more effective than others available), but it is also a possible teratogen in a fetus.

Similarly, women with severe epilepsy are frequently maintained on phenytoin, a known teratogen in a fetus.

Circumstances presenting relatively low risk conditions, but limiting a woman's and physician's ability to maintain the woman's health status:

Mechanisms that interfere with implantation

Two primary examples would be the IUD and the morning-after pill.

Genetic diagnosis and medical intervention

Effectiveness of counseling of parents regarding genetic disorders would be substantially diminished because essential diagnostic procedures, such as amniocentesis, which has a predictable fetal mortality, would be limited or unavailable.

It follows that medical intervention, following diagnosis of a genetic disorder, would also be limited or unavailable. Such circumstances could have serious adverse effects on a woman if the pregnancy could not be terminated. The types of genetic anomalies that physicians must deal with include: anencephaly, spina bifida, and mongolism. Is medical intervention and further study to be forbidden in these cases?

Mr. Chairman, the legislation does not address these physician dilemmas or provide answers to physicians who must deal on a daily basis with these critical situations. We concur with the views of the American College of Obstetricians and Gynecologists that this legislation, should it become effective, would create extreme dilemmas for the practicing physician and severe health problems for women. We have just cited several life-threatening situations where effective medical intervention would be prohibited. The American College of Obstetricians and Gynecologists similarly opposes S. 158.

A woman who has determined that she cannot carry a pregnancy to term will still seek an abortion. Those who have had to deal with the consequences, both physical and mental, caused by illegal abortionists and self-help efforts cannot understand any action which would permit a return to that state of affairs.

Mr. Chairman, this legislation would improperly interfere with one of the most delicate aspects of the physician-patient relationship. The social implications for our society of ever-tightening rules to restrict prenatal medical intervention would be substantial. A "national policy" that gives legal status as a person to a fetus could severely limit research and advancement of the art and science of prenatal diagnosis and medical intervention.

Conclusion

In sum, we see no end to the negative medical, legal, social, ethical, and moral reprecussions of a national policy that declares that "human life" begins at the time of conception.

Mr. Chairman, the medical profession and medical science cannot define for this Committee when "human life" attaches to incipient fetal life. We also cannot stand silently by, however, while others suggest that science or medicine can or should do so.

We urge that this Committee reject this legislation on its merits.

Current Medicolegal Issues

THE CITATION—AMA

No Negligence In Surgery In Positioning Of Arm

Physicians were not liable to a patient whose arm was allegedly injured during a hysterectomy, the Florida Supreme Court ruled.

The patient suffered damage in the ulnar region of her left arm. She claimed that this was due to negligence by one of the physicians in the operating room when she was undergoing a hysterectomy or at some time later in the hospital.

The patient sought to present the opinions of two neurosurgeons as to whether it was below the accepted standard of care for either a gynecologist or an anesthesiologist to permit a compression injury to the ulnar nerve to occur during the course of an operation. The trial court refused to allow the neurosurgeons to testify because they were not specialists in either gynecology or anesthesiology. The jury decided for the physicians.

On appeal, the court said that while the neurosurgeons would not have been competent to testify as to the hysterectomy or the anesthetizing of the patient, it was not clear that they were not qualified to testify as to the positioning of the patient. Although exclusion of these witnesses was error, the court said, it was harmless because it was not disputed that if the nerve injury was caused on the operating table it would constitute a breach of the standard of care for both physicians.

The court found that the record showed that the jury did not believe that the injury was caused by the placement of the patient on the operating table. The court also found that the trial court did not err in admitting into evidence the written finding of a medical mediation panel that found no actionable negligence, as opposed to only its conclusion. The court affirmed the trial court's judgment.—*Chenoweth v. Kemp,* 396 So.2d 1122 (Fla. Sup. Ct., April 2, 1981)

Physician Loses Countersuit

A verdict for a physician in an action against an attorney for malicious prosecution was properly set aside, an Indiana appellate court ruled.

A patient who had been suffering from headaches underwent a series of diagnostic tests and an anterior cervical fusion. The attorney filed an action against the physician for malpractice. A trial court granted summary judgment on agreement of the attorneys in favor of the physician. The medical records revealed that the physician did not participate in the surgery. His sole involvement in the patient's care was prescribing a laxative.

In a malicious prosecution action against the attorney, the physician claimed that he was aware of those facts prior to suit and thus lacked probable cause to bring the action against the physician. A jury awarded the physician $25,000 in damages, but the trial court set aside the jury's verdict on the ground that the malpractice action was terminated by agreement.

Affirming the decision, the appellate court said the physician failed to meet his burden of proving lack of probable cause. The evidence was uncontroverted that the attorney believed he had a potential claim against the physician for his involvement in the patient's injuries. The attorney was not liable to the physician for allegedly wrongfully continuing the malpractice action once he discovered that the physician did not participate in the patient's surgery, the court said.—*Wong v. Tabor,* 422 N.E.2d 1279 (Ind. Ct. of App., July 8, 1981)

Damages Awarded For Guillain-Barre Syndrome

A patient with Guillain-Barre Syndrome was entitled to $925,000 in damages and her husband to $275,000,

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THE CITATION is a newsletter on medicolegal issues prepared by the Office of The General Counsel of the American Medical Association.

a federal trial court in Minnesota ruled.

The 40-year-old patient suffered permanent neurological injuries from GBS following a swine flu inoculation on November 27, 1976. At the time of trial she had a severe deficit of motor strength in all her extremities secondary to severe polyradiculoneuropathy. Some facial asymmetry existed, and reflexes were absent in all her extremities. She had atrophy of all muscles of her hands and of the muscles from the knees down. She had a decrease of pinprick appreciation from about the elbow distal on the left and from the midforearm distal on the right. Her gait was slow and unsteady with slapping of her feet bilaterally due to the absence of the dorsiflexors of both feet.

The government admitted liability for causing her injuries, and a trial was held on the question of amount of damages only. The court awarded the patient $66,018.92 in total medical expenses; $7,786.00 for future expenses for leg braces; $32,070.00 for past loss of wages and fringe benefits; $227,394.00 for future loss of wages and fringe benefits; and $591,731.08 in general damages for pain and suffering, bodily impairment, disfigurement, embarrassment, humiliation, emotional distress, permanent physical limitations and sexual deprivation. The court awarded the patient's husband $18,072.00 for past services; $112,275.00 for future services; and $144,653.00 for loss of consortium.

In the same action the court denied the government's request to offset social security benefits the patient would receive from the court's award. The court said that social security payments should be treated no differently than if they were received from a private insurance company. They were a collateral source payment and under Minnesota law, damage awards could not be reduced by amounts received from collateral sources, the court said.

Denying another motion by the government, the court said that the award of $144,653 to the husband for loss of consortium was not excessive. The government argued that the parties' sexual relationship had returned to its pre-illness level. The court noted, however, that the record was replete with testimony regarding the drastically changed nature of the marital relation. They suffered physical discomfort, embarrassment and a profound sense of inadequacy during sexual relations, the court said.—*Skarsten v. U.S.*, 517 F. Supp. 28 (D.C., Minn., Dec. 31, 1980), 517 F. Supp. 37 (D.C., Minn., Dec. 30, 1980), 517 F. Supp. 40 (D.C., Minn., May 13, 1981)

Swine Flu Vaccine Patient Awarded $1,777,112

A 26-year-old patient and her husband were entitled to $1,777,112.67 in damages for severe injuries she suffered from a swine flu vaccination, a federal trial court in Pennsylvania ruled.

The government admitted liability for the Guillain-Barre Syndrome she suffered after a swine flu inoculation. The patient's husband sought damages for loss of consortium. The patient was permanently crippled and confined to a wheelchair except when she used crutches and complicated leg braces that completely enveloped her thighs, lock at the knee and go down the backs of the calves and about three-fourths under each foot. A neurologist testified that of some 50 cases of Guillain-Barre Syndrome he has seen, the patient had the most severe case except those that ended in death.

The trial court reviewed the various elements of damages and awarded her $1,577,112.67. The award included amounts for house alterations, lost wages, future cost of paraplegic equipment, medical expenses and home improvements already made. Also included was $666,000 for pain and suffering. The patient's husband was awarded $200,000 for loss of consortium. —*Barnes v. U.S.*, 516 F. Supp. 1376 (D.C., Pa., June 29, 1981)

Court Not Authorized To Expunge Records Of Physician's Arrest, Trial

A trial court was not authorized to close and expunge records of the arrest, trial, verdict and probation of a physician, a Missouri appellate court ruled.

On March 9, 1978, the physician was found guilty of the felony of mingling poison with food or medicine. He was sentenced to 12 years' imprisonment, but the sentence was suspended and he was placed on probation for five years. The physician filed a motion for termination of probation and expungment of records, and on January 6, 1981, the trial court granted the motion. The court found that the physician had complied with all terms of probation and ordered that the charge against him be dismissed and that all records of his arrest, trial and verdict be closed and expunged.

The Circuit Attorney for the City of St. Louis then filed suit to prevent the trial court from enforcing its order. The attorney contended that the court exceeded its jurisdiction in ordering the state and its officials to close and expunge the records. The appellate court agreed that the trial court was not authorized to dismiss the charge against the physician. He was found guilty by a jury, and the court could not dismiss the charge against him. Suspension of the sentence was not the kind of extraordinary circumstance that would warrant an order expunging the criminal records, the court said.

The appellate court ordered the trial court not to enforce its order.—*State of Missouri ex rel. Peach v. Tillman,* 615 S.W.2d 514 (Mo. Ct. of App., March 10, 1981; rehearing denied, April 24, 1981; transfer denied, June 8, 1981)

Month in Washington

The American Medical Association has urged Congress to legislate the Federal Trade Commission out of the business of regulating the profession of medicine.

The "ultimate loser" as a result of the FTC's present activities is "the patient—the men and women of America who will be victimized by the practices that responsible professionals are trying to prevent through reasonable self-regulation," said Newton Minow, lawyer for the AMA in its seven-year legal battle against the FTC on the issue of physician advertising.

Minow, Joseph Boyle, M.D., Chairman of the AMA Board of Trustees, and James Sammons, M.D., AMA Executive Vice President, appeared before a House Commerce Subcommittee considering legislative proposals for reauthorizing the FTC.

Noting that the Supreme Court recently by a four-to-four vote failed to resolve the question of the FTC's jurisdiction over the professions, Minow said the issue now should be settled by Congress.

"We urge that this subcommittee act favorably on legislation that would clarify that Congress never empowered the FTC to regulate professional associations or to strike down duly enacted state laws governing the professions," said the lawyer. In the interim the AMA urged enactment of legislation (H.R. 3722) that would place a moratorium on FTC activities involving professional associations.

Dr. Boyle stressed that the moratorium would have no financial impact on the profession as a whole, that there is no self-interest involved. The problem with present FTC jurisdiction, Dr. Boyle said, is "the aberrant, unscrupulous physician who could make the patient suffer. The unscrupulous physician is freer than he was before; the FTC does not help the public."

Dr. Sammons told the subcommittee, headed by Rep. James Florio (D-NJ), that the FTC "accomplished absolutely nothing" except to jeopardize the status of medical ethics in its long legal battle with the AMA. There is "total adequacy" among the states and with the Justice Department to handle antitrust problems involving the professions, Dr. Sammons said. "We are not attempting to duck the antitrust laws by any means."

The lack of expertise at the FTC is "a mockery," he told the lawmakers. The agency focuses on cost without considering the question of quality, Dr. Sammons said.

Minow said the standards that the FTC applies to commercial firms "are not appropriate in dealing with the professions."

Congress, he said, "should not entrust regulation of medical or other professional organizations to an agency created to provide expertise in regulating industrial and commercial entities." The FTC "brings zero knowledge to the health field—zip." The agency, Minow told the lawmakers, "has demonstrated a commitment to impose its own values in place of responsible positions taken by the professions and in place of valid laws duly enacted by the sovereign states."

Any medical organization that resists the FTC "is subjected at a minimum to a very expensive preliminary process during which it must explain the important public interests served by such programs as certification of physician competence."

Dr. Boyle pointed out that the California Medical Association (CMA) was forced to sign a consent decree with the FTC on a relative value study after advice from lawyers that although the courts probably would uphold CMA, the cost of defending the association's position would be $1.5 million.

Asked at a news conference following the congressional testimony why the FTC was pursuing its course against the professions, Minow said many people at the agency see no difference between the professions and trade or business; they believe the marketplace is the best governor. In addition, Minow said, "there is the tendency of any government agency to expand its efforts."

"We think there is an enormous difference in values between the professions and trade or business, especially in medicine where professional values make a very big difference to patients," said Minow.

Dr. Sammons said the FTC "seems incapable of understanding what professionalism is all about. Their mind-set simply doesn't comprehend the nature of professionalism."

This attitude appears to be a "straight path toward total control and domination of the professions by the FTC," said Dr. Sammons.

Rep. Norman Lent (R-NY), a co-sponsor of the Luken-Lee FTC moratorium bill, said that as he understood the AMA testimony the removal of jurisdiction over the professions from the FTC would leave no gaps in the law because of the continuing jurisdiction by the states and by the Justice Department. The AMA witnesses agreed.

Subcommittee chairman Florio pointed out that the chairman of the FTC, James Miller, and the Office of Management and Budget have opposed moves to strip the FTC of its professional jurisdiction.

In other testimony, American Dental Association (ADA) President Robert Griffiths said the FTC has

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Office of the American Medical Association

"no business overriding state laws by administrative fiat." Noting that the ADA was a party to the Supreme Court decision on the AMA advertising case, Griffiths said that to leave the FTC's jurisdiction undefined is to leave the professions "to the whim and caprice of whomever had administrative charge of the agency at any given time."

The National Society of Professional Engineers also urged removal of FTC jurisdiction over professionals.

However, The American Nurses Association, the National Association of Chain Drugstores and the National Chiropractors Association opposed the removal of FTC jurisdiction over the learned professions.

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The AMA has opposed two bills in Congress that would alter the Professional Standards Review Organization (PSRO) program. In testimony before the Senate Finance Subcommittee on Health, AMA trustee William H. Hotchkiss, M.D., said the Association opposed the two bills—S. 2142 and S. 1250—because "the proposals would continue many of the objectionable features of the existing PSRO program."

S. 2142 would repeal the existing PSRO program and replace it with a Utilization and Quality Control Peer Review Organization. S. 1250 would establish an 11-member advisory group (6 of the members would be physicians with PSRO experience) to advice the Department of Health and Human Services Secretary on consolidating PSRO areas.

Dr. Hotchkiss noted in his testimony that the proposed new program would be mandatory, just as the present PSRO program is. "Just as the PSRO program shifted from quality orientation to cost orientation, we see nothing in the bill that would likely cause a different result," he said. "The mandatory nature of the proposal would give the Secretary significant bargaining power in negotiating contracts with review organizations, and costs would become an overriding factor in negotiating objectives that would again be used in judging an organization's performance."

The AMA also objected to the fact that the new review organizations would be authorized at the government's discretion to conduct pre- and post-review of services, examine Medicare providers' records, and inspect facilities where services are delivered. "This raises the potential that the program could direct medical care and interfere in the physician-patient relationship," Dr. Hotchkiss said.

In addition, Dr. Hotchkiss noted that under the proposed bill review could be performed by an organization that had no physician members, and the HHS Secretary could terminate a review contract at will. "The AMA objects to both provisions," he said.

In conclusion, Dr. Hotchkiss told the committee, "we do believe that a system of voluntary medical peer review could act effectively in assuring the quality of medical care for all patients, and that this could be accomplished without the substantial government expense of either the PSRO or proposed review organization program.

"The AMA will continue in the development of voluntary peer review. We believe that a voluntary system of peer review would serve the best interests of both the recipient and the provider of medical care."

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Hospital-associated physicians such as many pathologists, radiologists and emergency room physicians should be regarded as independent contractors rather than as employees of the hospitals, the AMA has told Congress.

The definition is of importance under the federal tax laws. Refusal of the Internal Revenue Service (IRS) to recognize such physicians as independent contractors would have an impact on the operations of the hospitals as well as the tax treatment of the physicians involved.

Jerald Schenken, M.D., a member of the AMA's Council on Legislation, told a Senate Finance Subcommittee that the issue of independent contractor status "goes to the very heart of professionalism." Dr. Schenken said there is no attempt by hospitals "to exercise any control or interfere in any way with the physician's independent exercise of medical judgment on behalf of an individual patient."

Speaking for the American College of Radiology, the American College of Emergency Physicians, and the College of American Pathologists as well as the AMA, Dr. Schenken noted that historically hospital-associated physicians have been considered by the IRS to be independent contractors under the common law rules and have not been considered employees of hospitals.

However, starting in the late 1960's, the IRS, "often arbitrarily," attempted to reclassify many independent contractors. Due to protests and uncertainties about the tax agency's policies, Congress in 1978 imposed a temporary moratorium on IRS rulings on the issue. The current moratorium expires July 1, and legislation has been introduced to spell out the criteria for independent contractors.

Dr. Schenken said physicians are concerned that the legislation "fails to take into account the unique circumstances of professionals, such as hospital-associated physicians."

As a result, the AMA has developed draft language to amend the bill to help assure that qualifying physicians who traditionally have been considered independent contractors not be improperly reclassified as employees. "Adoption of these amendments would resolve the independent contractor issue for hospital-associated physicians, thereby relieving both the IRS and these physicians from the expense involved in continued challenges and litigation concerning this issue."

Immunizations and Chemoprophylaxis for Travelers

Patients planning to travel to other countries often ask physicians for advice about immunizations and prevention of diarrhea and malaria. Legal requirements for entry and epidemiological conditions in different countries vary from time to time, often unpredictably, but some reasonable recommendations can be made. More detailed information is available in *Health Information for International Travel 1981,* which was published by the Centers for Disease Control as a supplement to Morbidity and Mortality Weekly Report, Vol. 30, August, 1981, and can be obtained from the Superintendent of Documents, US Government Printing Office, Washington, DC 20402.

Malaria Chemoprophylaxis

Probably the most important medical advice for travelers is to make sure of adequate chemoprophylaxis for travel to areas where malaria is endemic. The table lists areas with a risk of malaria and indicates those where chloroquine-resistant *Plasmodium falciparum* has been reported. Adults and children who weigh more than 50 kg traveling to areas where malaria is endemic should take 500 mg (300 mg base) of chloroquine phosphate once weekly, beginning one week before arrival and continuing for six weeks after leaving the endemic area. Infants and children who weigh less than 50 kg should take 5 mg (base)/kg weekly. For prevention of attack after departure from areas where *P. vivax* and *P. ovale* are endemic (which includes almost all areas where malaria is found), many experts prescribe primaquine phosphate 26.3 mg (15 mg base) daily during the last two weeks of chloroquine prophylaxis. Primaquine can, however, cause hemolytic anemia in patients whose red cells are deficient in glucose-6-phosphate dehydrogenase (G-6-PD).

Travelers to areas with chloroquine-resistant *P. falciparum* can take 25 mg of pyrimethamine and 500 mg of sulfadoxine once a week in addition to chloroquine; this combination may soon be available in the USA as a single tablet (*Fansidar*—Roche). Most travelers to Africa and India, however, would probably be adequately protected by taking chloroquine alone, since only a few reports of chloroquine-resistant strains have been received from these areas. In addition, pregnant women should generally not take pyrimethamine, which is teratogenic in animals.

Vaccines

Several vaccines can be administered simultaneously at different sites, although typhoid, plague, and cholera vaccines, which commonly cause uncomfortable effects, may best be given at different times. If possible, immune globulin should not be administered for three months before or at least two weeks after a live viral vaccine is given. Since several of the vaccines recommended for international travelers require multiple doses at intervals of four weeks or more, immunization schedules should be planned as far in advance as possible. Patients with altered immune status should not receive live virus vaccines.

Cholera—The risk of cholera to tourists is very low and cholera vaccines, which are prepared from killed bacteria, have limited effectiveness. Cholera vaccination is not generally recommended for tourists, but some countries require a single dose within six months of entry for travelers from infected areas.

Measles—Many adolescents and young adults in the USA have not had measles. Medical Letter consultants suggest that anyone born after 1956 who has not received measles vaccine and does not have a physician-documented history of infection should receive a single dose of measles vaccine before traveling.

Plague—Vaccination against plague is generally recommended only for travelers who may have contact with wild rodents or rabbits, particularly in interior regions of Viet Nam, Democratic Kampuchea (formerly Cambodia), and the Lao People's Democratic Republic (formerly Laos). Plague vaccine is a killed bacterial preparation, with adverse effects similar to those of typhoid vaccine, but often more severe.

Polio—Travelers to tropical or developing countries not previously immunized against polio should receive a primary series of trivalent (live) oral polio vaccine or inactivated polio vaccine. Previously unimmunized adults should receive inactivated vaccine, unless protection is needed in less than four weeks; then a single dose of trivalent oral polio vaccine is recommended.

Reprinted from *The Medical Letter,* Vol. 23, No. 25, Dec. 11, 1981.

Previously immunized travelers should receive one additional dose of trivalent oral polio vaccine.

Rabies—Rabies vaccine, an inactivated virus preparation, is recommended only for travelers anticipating contact with animals that may have rabies or prolonged residence in an area where rabies is a constant threat. A new human diploid cell rabies vaccine, safer and more effective than duck embryo vaccine, is now available in the USA (Medical Letter, 22:93, 1980).

Smallpox—Smallpox vaccine should no longer be given for international travel.

Tetanus and Diphtheria—The organisms that cause tetanus and diphtheria are found throughout the world. Whether traveling or not, everyone should receive a primary series of immunizations against tetanus and diphtheria and a tetanus-diphtheria toxoid booster injection every 10 years.

Typhoid—Typhoid vaccine, prepared from killed bacteria, is recommended every three years for travel to rural areas of tropical countries, where typhoid tends to be endemic, or any area where an outbreak is occurring. The vaccine, which is not fully protective, often causes one to two days of pain at the site of injection, sometimes accompanied by fever, malaise, and headache.

Typhus—Travelers from the USA are very unlikely to contact typhus. Typhus vaccine, a killed rickettsia vaccine prepared in eggs, is no longer manufactured in the USA.

Yellow Fever—Yellow fever vaccine, an attenuated live virus vaccine prepared in eggs, is recommended before travel to infected areas, which can vary from week to week; up-to-date information is available from local or state health departments. Some countries require vaccination for travelers arriving from "endemic zones," which include most of Africa below 15 degrees latitude North and above 15 degrees South; Panama, Venezuela, Surinam, Guyana, and French Guiana; most of Colombia; northwestern Brazil; and eastern Peru, Bolivia, and Ecuador. Yellow fever vaccine is effective for 10 years.

Immune Globulin

Immune globulin for prevention of hepatitis A is recommended for travelers going to areas where hygiene is poor. It should be given close to the time of departure, in a dose for adults of 2 ml IM for a visit of less than three months, and 5 ml for a longer stay.

Travelers' Diarrhea

The most common cause of travelers' diarrhea, usually a self-limited illness of several days' duration, is bacterial infection with enterotoxigenic *Escherichia coli. Shigellae* are also important pathogens; *Salmonellae,* other bacteria, and viruses are less common causes of this disorder. Whatever the pathogen, drinking only boiled or carbonated water (the low pH limits bacterial contamination), and avoiding ice, salads, and unpeeled fruit may help prevent infection. For travelers who cannot afford the inconvenience of even a brief diarrheal illness, several different drugs may also help prevent symptoms.

Doxycycline—A single dose of 200 mg of doxycycline (*Vibramycin;* and others), a long-acting tetracycline, taken on the day of travel, followed by one 100-mg capsule daily for three weeks, can prevent travelers' diarrhea due to enterotoxigenic *E. coli* (DA Sack et al, N Engl J Med, 298:758, 1978; RB Sack et al, Gastroenterology, 76:1368, 1979). Some strains of enterotoxigenic *E. coli,* however, are resistant to tetracyclines (P Echeverria et al, Lancet, 2:589, 1978). Doxycycline should be taken with or after meals to minimize nausea. As with other tetracyclines, the drug can itself cause diarrhea and photosensitivity reactions, and is not recommended for pregnant women or for children up to eight years old because it can stain developing teeth. As with other broad-spectrum antibiotics, tetracyclines frequently cause vaginal candidiasis, especially with prolonged use. *Salmonellae* and *Shigellae* are often resistant to tetracyclines. *Vibramycin* costs the patient an average of about $1.30 for each 100-mg capsule; generic doxycycline costs about 15 cents less per capsule.

Pepto-Bismol—Large doses of Pepto-Bismol Liquid, an over-the-counter suspension of bismuth subsalicylate, can also prevent diarrheal illness in travelers (HL DuPont et al, JAMA, 243:237, 1980). However, the dosage used in controlled trials, 60 ml q.i.d. or one 240-ml bottle per day, is inconvenient to carry and there is no evidence that *Pepto-Bismol Tablets* or smaller doses of the liquid would be effective. How bismuth subsalicylate acts on enterotoxigenic *E. coli* is not known; direct antimicrobial activity and neutralization of the enterotoxin have been suggested as possible mechanisms. *Pepto-Bismol* usually causes no adverse effects, but large doses of bismuth subsalicylate can lead to toxic serum concentrations of salicylate in patients already taking large doses of salicylates for arthritis. The salicylate in *Pepto-Bismol* might cause bleeding in patients taking oral anticoagulants and, in patients with gout, inhibit the activity of uricosuric drugs such as probenecid (*Benemid;* and others) or sulfinpyrazone *(Anturane).*

Trimethoprim-Sulfamethoxazole—Preliminary results, still unpublished but made available by Medical Letter consultants, suggest that one tablet daily of double-strength trimethoprim-sulfamethoxazole *(Bactrim DS; Septra DS),* may prevent travelers' diarrhea due to either enterotoxigenic *E. coli* or *Shigellae.* Adverse effects are uncommon in patients taking trimethoprim-sulfamethoxazole, but serious skin reactions can occur, including Stevens-Johnson syndrome, and hematological reactions, including hemolytic anemia, neutropenia, and aplastic anemia, have been reported.

Countries With a Risk of Malaria*

Africa
- Algeria[1]
- Angola
- Benin
- Botswana[2]
- Burundi
- Cameroon, United Republic of
- Cape Verde[3]
- Central African Republic
- Chad
- Comoros
- Congo
- Djibouti
- Egypt[3]
- Equatorial Guinea
- Ethiopia
- Gabon
- Gambia
- Ghana
- Guinea
- Guinea-Bissau
- Ivory Coast
- **Kenya[4]
- Liberia
- Libyan Arab Jamahiriya[3]
- **Madagascar
- Malawi
- Mali
- Mauritania
- Mauritius
- Morocco[3]
- Mozambique
- Namibia
- Niger
- Nigeria
- Rwanda
- Sao Tome and Principe
- Senegal
- Sierra Leone
- Somalia
- South Africa[5]
- Sudan
- Swaziland[6]
- **Tanzania, United Republic of
- Togo
- Tunisia[3]
- Uganda
- Upper Volta
- Zaire
- Zambia
- Zimbabwe

Americas
- Argentina[7]
- Belize[8]
- Bolivia[9]
- **Brazil[10]
- **Colombia[3]
- Costa Rica[3]
- Dominican Republic[11]
- **Ecuador[12]
- El Salvador[3]
- **French Guiana[13]
- Guatemala[14]
- **Guyana[3]
- Haiti
- Honduras[3]
- Mexico[15]
- Nicaragua[16]
- **Panama[3]
- Paraguay[3]
- Peru[3]
- **Surinam[3]
- **Venezuela[3]

Asia
- Afghanistan
- Bahrain
- **Bangladesh[17]
- Bhutan[18]
- **Burma
- **China, People's Republic of[19]
- **Democratic Kampuchea (formerly Cambodia)
- **India
- **Indonesia[20]
- Iran[3]
- Iraq[21]
- Jordan[3]
- **Lao People's Democratic Republic[22]
- **Malaysia[3]
- Maldives[23]
- Nepal[3]
- Oman
- Pakistan
- **Philippines[3]
- Saudi Arabia[24]
- Singapore[3]
- Sri Lanka (formerly Ceylon)[25]
- Syrian Arab Republic[3]
- **Thailand[3]
- Turkey[26]
- United Arab Emirates
- USSR[27]
- **Viet Nam[28]
- Yemen[29]
- Yemen, Democratic[30]

Oceania
- **Papua New Guinea
- **Solomon Islands
- Vanuatu (formerly New Hebrides)

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*Adapted from *Health Information for International Travel 1981,* which includes months of risk and specific areas within countries with chloroquine-resistant malaria.

**Countries with known chloroquine-resistant *P. falciparum.*

REFERENCES

1. Wilaya (Dept.) and Ouargla only.
2. Northern part of country only.
3. No risk in urban areas.
4. Except city of Nairobi.
5. Areas bordering Botswana, Mozambique, and Zimbabwe.
6. Northern border areas.
7. Area near Bolivian border only.
8. Except Belize District.
9. Except provinces of La Paz, Oruro, and Potosi.
10. No risk in urban areas except Amazon River region.
11. In general, areas bordering Haiti. No risk in urban areas.
12. No risk in Galapagos Islands and vicinity of Quito.
13. Except Cayenne City.
14. Except Guatemala City and central highlands.
15. No risk in major tourist resorts along Pacific and Gulf coasts or in urban areas except for Alamos in Sonora State.
16. No risk in urban areas except in outskirts of some towns.
17. Except Dacca City.
18. Except Chirang and Sanchi.
19. No risk in usual tourist routes.
20. Except Djakarta and Surabaya.
21. Northern region.
22. Except Vientiane.
23. Except Male Island.
24. Except Alhasa, Arar, Jauf, Quraiya (Gurayyat), Riyadh, Tabuk, Taif and urban areas of Jeddah, Medina, Mecca, Qatif.
25. Except Colombo.
26. Cukorova/Amikova areas and southeast Anatolia.
27. Scattered areas near Iran and Afghanistan.
28. Except northern delta region.
29. Except Hajja and Sada Prov.
30. Except Aden and airport perimeter.

GIOACCHINO S. PARRELLA, M.D.
President

GIOACCHINO S. PARRELLA, M.D.

Born: New Haven, Connecticut - March 28, 1917

Education:
- New Haven Senior High School with honors - 1934
- Yale University - B.S. with high distinction - 1938
- Yale University School of Medicine - M.D. 1941
- Straight surgical internship: New Haven Hospital - 1942-1943
- Assistant resident surgeon: New Haven Hospital - 1943-1944
- Senior surgical resident: Newington Hospital V.A. - 1946-1948

Certification:
- Diplomate American Board of General Surgery - 1949
- Diplomate American Board of Thoracic Surgery - 1950
- Diplomate of National Board of Medical Examiners - 1942

Practice:
- Assistant Chief of Surgery - Newington Hospital V.A. 1948-1950
- Private practice General and Thoracic Surgery, Milford, Connecticut - 1950 through present time
- Attending surgeon - Milford Hospital and West Haven Hospital V.A.
- Chief of Surgery - Milford Hospital 1957-1975
- Consulting Attending - Milford Hospital 1975 through present time
- Author of several papers dealing with clinical investigation in fields of surgery

Professional Associations:
- Former president - New Haven Chapter, American Cancer Society
- Former president - Milford, Connecticut Rotary Club
- President - New Haven County Medical Association 1974-1975
- Board of Trustees - New Haven Foundation for Medical Care 1975 through 1981
- President - New Haven Foundation for Medical Care (now Healthcare) 1974
- President - Professional Services Review Organization for Area II of Connecticut, including Litchfield and New Haven Counties 1974-1975
- Member - P.S.R.O. Council, State of Connecticut 1977-1980
- Former clinical instructor of surgery - Yale University School of Medicine
- Fellow of the American College of Surgery
- Member - Connecticut Society of American Board Surgeons
- Member - Connecticut Thoracic Society
- Member - New England Surgical Society
- Member - Yale Club of New Haven and Yale Club of New York
- Councilor of Connecticut State Medical Society
- Vice President - Connecticut State Medical Society 1980
- President-Elect - Connecticut State Medical Society 1981
- President - Connecticut State Medical Society 1982-1983

Military Service:
- First Lieutenant to Captain, M.C.A.U.S. - 1944-1946
- Overseas service - European Theatre of Operations
- Stateside service - Fort Jackson General Hospital and Cushing General Hospital, Framingham, Massachusetts

Awards:
- Sterling Memorial Scholarship 1934-1938
- Alpha Omega Alpha 1941
- Rosa M. Verdi Memorial Scholarship 1940-1941

The President's Page

A Look Into the Past

The stable of Leverett Hubbard, first president of CSMS, boasted of four prize steeds and he prided himself in being able to ride 40 miles a day in 1792. He kept a servant who slept just inside the front door of his home so that the latter could be ready to assist his physician master in answering calls at any time of the day. For all his frantic efforts in the home delivery of medical care, Dr. Hubbard only saw an average of eight patients a day. To the most fortunate among these he dispensed cathartics, sudorifics, or, more rarely, emetics. A few unlucky patients were subjected to blood letting when they least could tolerate the loss of circulating blood volume. Although described as being supercilious and overbearing by his colleagues, he enjoyed a popularity in New Haven which brought him fame and fortune. Dr. Hubbard left an estate of over $27,000. Quite a sum when a house call brought him only 17 cents. He no doubt added to his income by selling medicaments, herbs, and molasses. His diagnoses were never questioned. His treatments were considered miraculous and malpractice was a word found only in the dictionary.

An early skilled surgeon who served as President in 1812 was Mason Cogswell of Hartford. It was said he could perform a thigh amputation in 40 seconds and "was never ruffled or disconcerted." Even more important to us was his organizational skills. Dr. Cogswell helped found the Retreat in Hartford, the Asylum for the Deaf, and the General Hospital in New Haven. As president of the Yale Medical School he was largely responsible for the calling of Nathan Smith to the professorship in New Haven. What a lasting impression his efforts have had on institutional practice in the care of the infirm and mentally ill in Connecticut!

I'm sure the amputation of limbs for compound fractures was standard when Francis Bacon (president 1887) served at Bull Run. He later succeeded Jonathan Knight as Professor of Surgery at Yale. The latter, although the first president of the American Medical Association and a great teacher, never served as president of his native state society. These men were mainly thinkers and organizers. Their meager surgical skills were unquestioned by an unsophisticated public.

Dr. William H. Carmalt (1904) was "majestic in figure, a scholar in thought and action, and possessed of a graceful English diction." He brought a re-awakening of surgery at Yale with his broad academic background. With his wife he founded the Connecticut Training School for Nurses—one of the first of three such schools in this country. Following him many Yale teachers succeeded to this office; i.e., George Blumer, William Verdi, Ralph McDonnell, George Smith, Samuel Harvey, H.M. Marvin, and Clyde Deming. How humbling it is to be included with such an august company, even though their skills were limited by technology just beginning to develop. How much more powerful is our present day influence on the progress of disease. With a few pills given over a few hours we can reverse a scourge that those brave pioneers helplessly observed for days. With skillful techniques we have access to and can visualize pathology in the living patient only available to our predecessors at the autopsy table.

Cognizant of these abilities our patients expect miraculous cures as common place. It is when we fail them that they become litigious minded. Would it not be a wonderful thing if somehow we could make our patients understand that despite all modern technology, surgical techniques, and drugs, there will still be limitations and failures. I'm sure that all our distinguished predecessors were skilled in establishing such communication with their patients. After all, in most cases, that's all they had to offer.

Gioacchino S. Parrella, M.D.
President

Reflections from the Dean's Office

Words Without End

ROBERT U. MASSEY, M.D.

In an older agricultural society most work, or the intensity of work, was seasonal. The cycle of sowing, cultivating, and harvesting began and ended, and the winter which followed was a time of relative quiet. In the cities the seasons of work were turned around, in part because it was easier before air conditioning to heat the schools and factories in winter than to cool them in summer. Except for farmers, obstetricians, and sailors, the pace of living slowed down in the warm months, and society organized itself in such a way as to permit these recurring cycles of work and leisure. Even diseases were seasonal, and the intestinal complaints of summer made less demand on the hospitals than the respiratory illnesses of winter.

We would need to examine the records to see what happened in the hospitals during a nineteenth century summer; I suspect that many of the long wards were bright, breezy, and nearly empty. In teaching hospitals, doctors, especially the chiefs, were on holiday or attending international congresses.

In his biography of William Osler, Cushing writes of long summer holidays with travel to Canada and abroad. In 1890, Osler left for Freiburg in May and returned to Baltimore from Berlin in September. Following his marriage in May, 1892, he and Grace Revere Osler left for Canada, then crossed the Atlantic to Southampton, spent the summer in Devon and Cornwall, and returned home in August. Some summer holidays were shorter, some were longer, but they were all times of renewal; in 1903, he sailed on 29 May for England and returned from Paris on 10 September. Osler wrote of the need for quinquennial brain-dusting, and those were the longer summers, the *Studienreisen.*

The late twentieth century has conspired against both leisure and privacy. There is little time to create because there is too much to do; no time to read because there is too much to read. It may be that we have fled into frenetic activity because we find leisure worthless and privacy lonely, but I suspect electronic technology has more to do with it. These devices have given us giant sense organs disproportionate to our brains.

Cheap and instantaneous communication has removed one of the brakes on nervous activity. There is so much information chasing around circuits into which we are all wired that we cannot stop responding. Only ordinary speech and the mail are slow by contrast.

Now that last safeguard is about to disappear. We are to have electronic mail! Everyone will have a word processor which will provide information at the rate of 10,000 characters per second. It is bad enough to think of "processing" words: imagine sending these electronic compositions instantaneously to anyone and everyone whenever the switch is on. Surely then the lid will be off.

All of this is supposed to save time, and should, in consequence, make room for more creative work, even allow leisure for brain-dusting. But that would only be so if these machines could be bridled, compelled to store or transmit no more than our present burden of information, disciplined into some sort of steady state. We do not have need even for this much, but of the making of words there is no end, and words and symbols will surely multiply to the full capacity of all the instruments, no matter if the characters per second increase a hundred fold, which by the law of technology they will.

The photocopier, the computer printer, the CRT, the video screen, and the telephone by now have us nearly swamped; the word processor will surely finish the job.

Our capacity to make sense of increasing masses of incoming data must follow a rising and falling curve in a manner analogous to Starling's law of the heart. By flooding us with words and thereby rendering leisure unthinkable, we must surely decompensate, and, since we shall all be linked by our word processors, we can take comfort in failing together like the cells in a myocardial syncytium. That, rather than a nuclear holocaust, may be the final epidemic—"not with a bang but a whimper."[1]

ROBERT U. MASSEY, M.D., Professor and Dean, School of Medicine, University of Connecticut Health Center, Farmington.

REFERENCES

1. Eliot TS: The Hollow Men

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Teaching Medical Law II

JOSEPH M. HEALEY, J.D.

Since physicians engage in the practice of medicine by virtue of, and in accord with, a mandate from society, it is important for medical students to understand that mandate and its implications for their future practice as soon as possible in their professional careers. In the United States, significant portions of the mandate are expressed through the legal regulation of the physician-patient relationship. The law considers the relationship to have four important aspects:

1. A contractual aspect (the relationship is essentially voluntary in nature and involves the completion of certain tasks);
2. A consensual aspect (care may be provided only after the informed, voluntary and competent consent of the patient is obtained);
3. A quality assurance aspect (the provider of health care owes the patient a duty of reasonable care according to the appropriate community standard);
4. A constitutional aspect—(both provider and patient may possess important Constitutional rights effecting the relationship).

Each of these four aspects is involved in significant legal problems for the contemporary practitioner. In general terms, these problems raise issues about the nature of the physician's obligations to the patient and the ways these obligations can be satisfied. By identifying some basic principles in medical law and by applying them to cases raising these problems, we hope the student will come to appreciate the legal medical perspectives.

The use of cases, both medical and legal, is designed to promote discussion of legal issues in concrete, rather than theoretical terms. At each stage of the life cycle, students are reminded that the foundation for understanding and satisfying one's legal obligations is a clear and accurate understanding of the scientific context in which legal problems arise. Such an understanding is, however, only the beginning of the analysis of legal issues. It is the next step—the identification and application of appropriate legal issues—that is the major focus of classroom, socratic discussion.

In the course of the teaching unit, we cover:

1. The nature of the physician's/dentist's and researcher's mandate from society;
2. Sources of authority and responsibility for the physician and the researcher;
3. Legal and ethical rights and duties of physicians, researchers, research subjects and patients in such areas as:
   A. Goals of the relationship;
   B. Self-determination and paternalism;
   C. Reproductive decision-making;
   D. Consent to treatment;
   E. Experimentation with human subjects;
   F. Decision-making for the dying patient;
   G. The determination that death has occurred.

I have described only the medical law component of our teaching unit. Equally important is the medical ethics component. Its goals parallel those of the medical law segment: to encourage appreciation of the disciplined reflection which medical ethics provides; to encourage the examination of key concepts and language used in describing and analyzing problems in medicine; and to encourage consideration of four fundamental themes in medical ethics—autonomy, beneficence, non-malfeasance and justice.

The success of a program such as ours depends in large part upon the cooperation of students and faculty. We have been fortunate to have received cooperation from both. We would not have been able to develop an integrated, comprehensive teaching program without the assistance of our colleagues on the faculty who have worked with us in the development and presentation of the case materials. In a similar manner, we are indebted to our students whose interest and enthusiasm have contributed to the growth and acceptance of our teaching program. I am most grateful to the graduating class of 1982, the first class to have law and ethics as a separate part of the first curriculum. I hope that they will find that this dimension of their medical careers has been enhanced by their experiences at the University of Connecticut School of Medicine. We have certainly been enhanced by their contributions to the development of our teaching program.

JOSEPH M. HEALEY, J.D., Associate Professor, Department of Community Medicine and Health Care, University of Connecticut, School of Medicine, Farmington.

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Assistant Executive Director
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Coordinator
Special Services

COUNCIL MEETING

Thursday, May 6, 1982

Attendance

Present were: Drs. Canzonetti, Parrella, Doctor, Backhus, Mendillo, Hecklau, James, Hess, Friedberg, Van Syckle, Whalen, Abbot, Petrie, Jameson, Anderson, Freedman, Barrett, Ragusa, Orphanos, Kaess, McDonnell and Fabro.

Also present: Mr. Norbeck, Mrs. Lindquist, Mr. Sweeney, Mr. Brunell, Mr.Fiorentino and Mr. Tomat (FCMA).

Absent were: Drs. Sadowski, Rubinow, Concannon, Zlotsky, Beck, Czarsty, Bobruff, Sonnen, Hayes, Ahrens and Callan.

Report on State and Federal Agencies

Dr. Hess reviewed the Health Planning article in the April issue of the CSMS Newsletter, recommended its contents to all, and urged everyone who had not seen the issue to read it carefully.

Dr. Friedberg addressed the Council regarding the matter of peer review in Connecticut. He had been asked by the Hartford County PSRO to speak to the Council regarding the present status of peer review in the state. Specifically, he was asked to question the Council if it planned to develop a leadership role in dealing with those other agencies working with peer review under the aegis of the Department of Health and Human Services. He believed that the presently established concepts of physician mediated peer review are threatened and every effort should be made to continue this approach. He stated that the Connecticut State Medical Society cannot allow a vacuum to exist and we must plan to play an active role immediately. Dr. Friedberg reported that the Connecticut Hospital Association has developed a plan to do peer review at the state level and have indicated that they desired to do peer review when and if the PSROs are terminated. In addition, he alluded to legislation introduced by Congressman Durenberger and characterized it as representing a grave threat to practicing physicians in the state in terms of utilization and peer review. The legislation is primarily directed towards cost control with the inherent threat of pre-admission screening and retroactive denial of benefits.

Dr. Canzonetti reinforced Dr. Friedberg's comments and stressed that the Statewide Medical Planning Committee chaired by Dr. Freedman would play a major role in coalition and peer activities. An important meeting between the PSRO staff of Hartford County and Dr. Freedman on the subject of peer review is scheduled for the immediate future. In reference to the Connecticut Hospital Association peer review plan, Dr. Canzonetti noted that they intended to utilize full time physicians from their institutions and not include physicians in private practice in the community. Several of these physicians had already contacted him and expressed their disapproval and criticism of this format. He reiterated Dr. Friedberg's resolution on peer review, which had been presented to the AMA House of Delegates last June, continued to be supported, and no physician reviews occur without participation and involvement of private practitioners.

Staff report on State and Federal Agencies which outlined state and federal actions on health planning and coalition activities was received as information.

Report of the President

Dr. Canzonetti detailed the Durenberger proposal on peer review indicating that it contained many onerous pieces of legislation as drafted. The bill permits the Health Care Financing Administration (HCFA) to establish a peer review system that would be conducted by intermediaries. He noted that the HCFA policy states that intermediaries would be conducting the peer review as long as they met or exceeded benefit savings targets, established annually by HCFA; noticeably absent from the statements is the mention of quality of care. He explained that this system would be established on a statewide basis and most punitive. Under this proposal different groups such as insurance carriers, the Blues, the Connecticut Hospital Association, etc. would be permitted to do this statewide peer review.

The perceived void with the possible termination of the health planning agencies was the next subject which Dr. Canzonetti addressed. He explained that Albert Snoke, M.D., formerly of Yale University, had recently returned to the state and contacted him, as both Chairman of the Board of Trustees of UCONN and CSMS President, regarding that issue. Subsequent to that, David Beatty, Chairman of the SHCC, also had contacted him concerning the problem. Meetings were held with Governor O'Neill, Jay Jackson, his legal counsel, Albert Snoke, M.D., and David Beatty, in order to draft a letter of intent to file a grant application to the Robert Wood Johnson Foundation to obtain monies to establish a state health care coalition. He also detailed the grant application process and timetable stressing the role of both the Society and the Committee on Statewide Medical Planning in the formulation and representation in the coalition.

Report of Meeting of New England State Medical Societies

The report submitted by Jerome Freedman, M.D., on his attendance at the meeting of the Council of the New England Medical Societies was received for information. After discussion, it was VOTED that the matter of closed hospital staffs be referred to the Committee on Hospitals for study, report and recommendations to the Council.

Report of Meeting of New England AMA Delegation

It was VOTED to approve of the following resolution on continuing medical education which had been adopted at the recent meeting of the Council of New England Medical Societies for submission to the AMA House of Delegates:

WHEREAS: The American Medical Association's approval of the Essentials for Accreditation for Continuing Medical Education was made contingent upon the approval of a Handbook (or guidelines) describing the accreditation process to be required by the Accreditation Council on Continuing Medical Education (ACCME), and

WHEREAS: There has been productive discussion among members of the ACCME which has indicated that no single set of guidelines will apply to all of the potential accrediting organizations including the state medical associations, and

WHEREAS: There has been agreement among the members of the ACCME that recognition standards shall be established which will reasonably enable state medical associations to qualify as accrediting organizations, and

WHEREAS: The Subcommittees of ACCME which will be designated to review the state medical associations for the purpose of accreditation or reaccreditation will be composed of individuals who are representatives of state medical associations, therefore

BE IT RESOLVED: That the American Medical Association approve the Essentials for Accreditation, as proposed by the ACCME with the understanding that state medical associations shall be designated as accrediting organizations.

Recommendations from Committee on Hospitals

After discussion of the committee recommendations, it was VOTED that the Connecticut State Medical Society favor the appointment to the Commission on Hospitals and Health Care of individuals whose commitment to the quality of patient care is at least as strong as their interest in cost containment.

It was also VOTED to approve the recommendation of the committee "to endorse the concept of Health Care Coalitions, as proposed by the AMA, to address some common consensus about availability, access, efficiency, and quality of patient care."

Report of Ad Hoc Committee on Nursing

It was VOTED to accept the report of the Ad Hoc Committee on Nursing and to transmit it to the AMA Executive Vice President for use by the AMA Board of Trustees. It was also VOTED to refer the report to the Committee on Allied Medical Services and the Joint Practice Committee. It was further VOTED to discharge the Ad Hoc Committee on Nursing with thanks for the thoroughness and the expeditious manner in which they completed their assignment.

Committee on Statewide Medical Planning

It was VOTED to adopt the four resolutions of the Committee on Statewide Medical Planning as amended and to transmit them to the CSMS House of Delegates for approval:

RESOLVED: That the Connecticut State Medical Society endorse the formation of a state health care coalition of physicians, with representatives from business, hospitals, industry, insurance, labor, law, and other health care providers, to address common concerns about health care delivery.

RESOLVED: That the Connecticut State Medical Society strongly support a health care coalition that includes meaningful physicians participation, so that primary emphasis is given to quality medical care, including availability and access, as well as recognizing the importance of cost effectiveness and cost containment.

RESOLVED: That the Council of the Connecticut State Medical Society authorize the Committee on Statewide Medical Planning to arrange exploratory meetings with potential coalition participants to determine the feasibility of forming a state health care coalition.

RESOLVED: That the Council of the Connecticut State Medical Society encourage the formation of county and local coalitions intended to achieve goals similar to those of the state coalition.

After discussion, it was VOTED to refer the following statements proposed by President Canzonetti to the Committee on Statewide Medical Planning for consideration:

1. That the CSMS favors peer review by physicians.

2. That CSMS urges the appropriate use of medical facilities.
3. That CSMS study inappropriate utilization of ancillary services and admissions to hospitals and advise its findings to the hospitals with the purpose of educating those concerned and to eliminate waste.
4. That CSMS emphasize the overall importance of the quality of care.

It was further VOTED to name the Chairman of the Council and President of CSMS, by office, to the Subcommittee on Coalitions of the Statewide Medical Planning Committee and that the committee chairman may add names as needed.

Louis C. Backhus, M.D.

President-Elect Gioacchino Parrella apprised the Council that it was the final Council meeting for Louis C. Backhus who was retiring as Secretary of CSMS. The Council members responded with applause for Dr. Backhus for his many years of service to the Council and the Connecticut State Medical Society.

Annual Reports of Committees, Representatives and Advisors, 1981-82

It was VOTED to receive the staff analysis that none of the subject reports made any recommendations for action, and it was also VOTED to receive the reports as information and transmit them to the House of Delegates.

Public Relations Update

It was VOTED to receive the written report in the agenda as information.

Nominees for AMA's Diagnostic and Therapeutic Technology Assessment Reference Panel (DATTA)

It was VOTED to nominate Orvan Hess, M.D., as a candidate for the subject panel and to contact the county medical associations for additional nominees.

Life Members

The names of new life members were presented to the Council for information and are as follows:

Roger N. Fowler, M.D., 205 Heather Lane, Ramsey, New Jersey (NL) - 1/1/82

Waclaw Olejnik, M.D., 3711 Cathy Avenue, Box #1, Sioux Falls, South Dakota (NL) - 1/1/82

Hans N. Rasmussen, M.D., 92 Depot Street, Uncasville, CT (NL) - 1/1/82

Harold S. Wright, M.D., 237 Hickok Road, New Canaan, CT (F) - 1/1/82

Drs. Jerome K. Freedman, Peter T. Jameson and Todd E. Anderson

Isadore H. Friedberg, M.D., pointed out that it was the last Council meeting for Drs. Jerome K. Freedman, Peter T. Jameson and Todd E. Anderson. Members of the Council applauded them for their efforts on behalf of the Council and the Connecticut State Medical Society.

Miscellaneous

Letter from the Orthopaedic Section—Chairman Guy W. Van Syckle, M.D., reported on a letter received from James Haugh, M.D., of the subject organization requesting that CSMS give priority to securing tort reform legislation in the next session of the Connecticut General Assembly. It was agreed that Dr. Van Syckle will respond pointing out that the Society is working towards that end, and that a CSMS committee has been meeting with the Connecticut Bar Association to discuss such items.

Letter from New Haven County

Chairman Guy W. Van Syckle, M.D., reported on a letter received from the New Haven County Medical Association requesting "that when any officer of CSMS is speaking in public, he should make it perfectly clear whom he is representing." The Council agreed to such a procedure.

All officers were present and all agreed to the thrust of this letter. It was noted that while the Council urges all physicians to speak publicly to not only medical but community affairs, it is indeed essential that he stress when he is speaking as an individual and when he is speaking as a representative of The State Medical Society.

Next Meeting

The next meeting of the Council will be held on Wednesday, June 30, 1982

N.B.: *The foregoing is a summary of the proceedings and actions of the Council on May 6, 1982. Detailed minutes of the meetings are on file at 160 St. Ronan Street, New Haven, for perusal by any interested member of the Society.*

IN MEMORIAM

GRISWOLD, MATTHEW, Yale Medical School, 1925. Dr. Griswold was a general practitioner in the New London area since 1932 until his retirement in 1968. He practiced in Old Lyme until 1938 when he joined the staff of the Yale Department of University Health. He retired from Yale in 1950 and resumed private practice in Old Lyme. A lieutenant in the Balloon Corps, he served in France during World War I. He was a member of the New London County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Griswold died March 7, 1982 at the age of 86.

SHAH, JYOTSNA R.C., G.S. Medical School, 1963. Dr. Shah was a anesthesiologist in the New London area since 1973. He was a member of the New London County Medical Association and the Connecticut State Medical Society. Dr. Shah died January 30, 1982 at the age of 41.

NEW MEMBERS

FAIRFIELD COUNTY

Jonathan Alexander, Danbury
Robert J. Allen, Stamford
Vicki Lee Altmeyer, Greenwich
Joseph D. Babb, Bridgeport
Philip M. Barasch, Stratford
Bernard N. Brodoff, Weston
Marjorie A. Brook, Danbury
David B. Brown, Bridgeport
Harold S. Cronin, Bridgeport
John F. Crowe, Greenwich
Charles Demirjian, Bridgeport
Marvin Den, Norwalk
Richard B. Doyle, Norwalk
John M. Greeley, Stamford
Jacob Hen, Bridgeport
Joseph G. Herbstritt, Brookfield
Dickerman Hollister, Jr., Greenwich
Edward Jacobson, Greenwich
Eric J. Katz, Bridgeport
Jonathan D. Katz, Fairfield
Norman M. Levy, Norwalk
Silvio A. Mandara, Stamford
Kevin J. Mitchell, Brookfield
Iradj F. Nejad, Bridgeport
Snehlata V. Patil, Brookfield
James F. Pelegano, Bridgeport
Celeste I. Pociask, Stratford
Ralph W. Romano, Jr., Bridgeport
Ira Sackman, Stratford
Warren R. Steinberg, Bridgeport
Byron S. Thomas, Danbury
J. Edwin Wilder, Bridgeport
Steven M. Zamore, Danbury

LITCHFIELD COUNTY

Hugh N. Boroson, New Milford
Paul A. Gibilisco, Torrington
Maureen B. Goldring, Torrington
Charles C.L. McNair, Jr., Woodbury

MIDDLESEX COUNTY

Louis Wang, Middletown

TOLLAND COUNTY

Bart A. Kummer, Rockville
Norma Medoraza, Rockville
Carol R. Leicher, Rockville

WINDHAM COUNTY

Harry T. Anderson, Willimantic
William R.K. Johnson, Putnam
James A. Kangos, Willimantic
Stephen M. Upham, Danielson
Charles L. Wreschner, Putnam

NEW HAVEN COUNTY

Mary Jean Ahern, Derby
Norberto A. Belleza, Derby
Charles J. Farrow, New Haven
Jack B. Huse, Meriden
Leonard A. Kolstad, Meriden
Samuel M. Lesko, Shelton
Roberto M. Martinez, Milford
Elliot K. Mathias, Shelton
Roslyn G. Murov, West Hartford
Carlos Schweitzer, Ansonia
David A. Seewald, Wolcott
Helen L. Smits, Wallingford
Edward L. Snyder, New Haven
Scott M. Soloway, New Haven
Frank P. Swanson, Shelton

NEW LONDON COUNTY

Paul E. Berman, Old Lyme
Owen R. Ehrlich, New London
Charles Esposito, Gales Ferry
Sheldon Feinberg, Norwich
Richard W. Geller, Norwich
Christopher J. Morren, New London
Moturu B. Prasad, Uncasville
Robert R. Proctor, Old Lyme
Jeffrey S. Schottland, New London
Robert M. Spitz, New London
James M. Trench, New London
Mark C. Wallen, Norwich
Dean N. Willis, New London

HARTFORD COUNTY

A. Richard Alberti, New Britain
Peter S. Buch, Manchester
Paul J. Ceplenski, New Britain
Augusto P. Chong, Hartford
William P. Clark, Jr., Enfield
Amarjeet K. Dargan, Bloomfield
Sharon A. Diamen, Wethersfield
Edward E. Fischel, Hartford
Henry T. H. Grant, Bristol
Donald W. Hight, Hartford
Joseph A. Ionno, Hartford
Louis H. Jacobs, New Britain
James G. Joseph, Avon
Roger R. Lenke, Hartford
Victor H. Mailey, Windsor Locks
Daniel P. McNally, Farmington
Joseph D. Millerick, Hartford
Robert J. Piorkowski, Hartford
Mina R. Rasoulpour, West Hartford
Matthew L. Saidel, Farmington
Lloyd E. Seyler, Jr., Hartford
Richard Slater, Hartford
George V. Smith, Hartford
Peter J. Smith, Windsor
William R. Snow, Hartford
David A. Zomick, Bristol

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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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MANUSCRIPTS should be submitted to the Editor, J. Alfred Fabro, M.D., *CONNECTICUT MEDICINE,* 160 St. Ronan St., New Haven, CT. 06511. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication.

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Or Call 566-4156

PHYSICIAN PLACEMENT SERVICE

The Society maintains the Physician Placement Service as a service to the medical profession in Connecticut. Opportunities for physicians to locate in Connecticut will be published as space permits and will be distributed to physicians making inquiries of such opportunities. Information should be sent to 160 St. Ronan St., New Haven, CT 06511 (203-865-6822).

Physicians wishing to establish practice in Connecticut are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.

OPPORTUNITIES FOR PRACTICE

(If no name is listed, contact the Physician Placement Service for more details.)

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For sale—established Dermatological practice central Connecticut —Doctor retiring. Write: CSMS, DERM/PNB.

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Community general hospital located in central Connecticut seeks part-time physician or locum tenens to work in busy Emergency Dept. Send curriculum vitae in confidence to: P.O. Box 486, Meriden, CT 06450.

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Are You Thinking of Retirement? Part Time position available in shore-line office-based practice. No Obstetrics, hospital or night calls. Write CSMS, FP/NK.

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Family practice group seeks locum tenens for month of July, 1982. Farmington area. Please call 677-9624.

GENERAL PRACTICE

General Medical Practice available. New Haven, CT. High patient volume can be expected. Soundly established. Same location for 21 years. Two blocks from Yale-New Haven Hospital. Due to death must sell. Have had full charge of office for ten years. Willing to stay. Contact Barbara King, 103 Plymouth Colony, Branford, CT 06405. (203) 481-0183.

MISCELLANEOUS

Wanted: Associates in Medicine, Family Practice, Pediatrics, etc., to share new professional building in the town of Litchfield. We have a catchment population of about 20,000 people, and presently only one medical man here with hospital privileges. Please contact Dr. Norman Smith (489-5068) or Dr. George Carofino (567-9488).

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Wanted: Board certified or eligible pediatrician to join active 2-man partnership in mid-Connecticut community near UConn Medical School. Position available immediately. Contact CSMS, PED/DB.

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OPHTHALMOLOGIST—excellent opportunity for practice in a suburban area of Hartford. Multi-specialty referral base in large medical building. City hospitals all affiliated with University of Connecticut Medical School. Write: CSMS, OPHTH/RJG.

PHYSICIANS WISHING TO LOCATE IN CONNECTICUT

FAMILY PRACTICE

Sept. '82. Age: 30. AB elig. MD, Stanley Medical College, Madras-1; Int. and Res., Griffin Hospital, Derby; Fellowship, New Britain General Hospital. Desires assoc. type practice. Write CSMS, FP/SC (to be forwarded).

GENERAL SURGERY

July '82. Age: 31. Nat'l bds. AB cert. MD, T.N.M.C., Bombay, India; Int., B.Y.L. Nair Hospital, Bombay, India; Res., Middlesex General Hospital; Fellowship, Wayne State University, Detroit, MI. Prefers medium to large size community and assoc. group or solo type practice. Write: Nilkanth B. Ranade, M.D., 170 Gale Blvd., #204, Melvindale, MI 48122.

INTERNAL MEDICINE

July '82. Age: 30. MD, Government Medical College, India; Res., Mount Carmel Mercy Hospital, Detroit, MI. Prefers all types of practices in medium to large size community. Write: Navtej Singh Rangi, M.D., 21472 Dequindre #201, Warren, MI 48091.

Oct. '82. Age: 34. AB elig. MD, Manial Central, The Philippines; Int., NY Medical, Res. and Fellowship, Kings County. Desires solo or group practice in medium size community. Write: Edward J. McDermott, M.D., 74-20 Ridge Blvd., Brooklyn, NY 11209.

July '82. Age: 32. Licensed in Connecticut. AB elig. MD, University of Rome, Italy; Int. and Res., Nassau Hospital, NY. Prefers solo or group practice in southwestern Connecticut. Write: Joseph A. Mackey, M.D., 260 First St., Mineola, NY 11501.

July '82. Age: 32. Licensed in Connecticut. AB elig. MD, University of Athens, Greece; Int., St. Michaels Medical Center, NJ; Res., Nassau Hospital, Mineola, NY. Prefers solo, group, institutional or industrial type practice in Fairfield County area. Write: Arthur P. Heliotis, M.D., 138 Richards Ave., Norwalk, CT 06854.

July '82. Age: 33. AB elig. MD, Baylor College of Medicine; Int. and Res., St. Paul Hospital, Dallas, TX. Desires solo, group or assoc. type practice in medium to large size community. Write: Raymond T. Alexander, M.D., Rt. 1, Box 134Y, Frisco, TX 75034.

Cardiology. July '82. Age: 31. Licensed in Connecticut. AB cert. MD, Medical College Nagpur, M.S., India; Int. and Res., Hospital for Joint Diseases, New York; Fellowship, Mount Sinai Medical Center, Miami Beach, FL; Norwalk Hospital, Norwalk, CT. Trained in Cardiac Cath. Permanent and temporary Pacemakers, M. mode & 2-D echo. Nuclear Cardiology. Prefers solo, group, assoc. or institutional type practice. Write: Dalal Prakash, M.D., 40 Prospect Ave., Building #2, Apt. 3M, Norwalk, CT 06850.

July '82. Licensed in Connecticut. Age: 44. AB elig. MD, University of Saigon; Int., St. Raphael Hospital (Pathology); Res., McKeesport Hospital, McKeesport, PA. Wishes to practice in a small community. Positions of Emergency Room, Clinic or General Practice are acceptable. Write: H.A. Tran, M.D., 2807 Lincoln Way, Apt. #14, White Oak, PA.

OBSTETRICS & GYNECOLOGY

Summer '82. Age: 29. Nat'l bds; AB elig. MD, New York Medical College; Int. and Res., Brookdale Hospital. Prefers solo, group or assoc. practice in medium or large size community. Contact: Lawrence D. Kramer, M.D., 301 E. 22nd St., New York, NY 10010.

July '82. Age: 31. AB elig. MD, University of Bombay; Int., Goa Medical College, Goa, India; Res., Mt. Sinai Hospital, Hartford. Prefers group practice in a small to medium size community. Write: Sandip U Sawardecker, M.D., 100 Prospect Ave., Hartford, CT 06106.

July '82. Age: 32. AB elig. MD, Lady Hardinge Medical College & Hospital, Delhi University, N. Delhi, India; Int. NY Infirmary Hospital; Res., NY Infirmary—Beekman Downtown Hospital, NY. Has passed Part I of OB/GYN Board. Trained in Laparoscopy and Colposcopy. Prefers Assoc., group or solo type practice. Write: Mrudu B. Agarwal, M.D., 7-2L Winding Brook Dr., Guilderland, NY 12084.

OPHTHALMOLOGY

Sept. '82. Age: 36. FLEX. AB elig. MD, Hebrew University—Hadassah Medical School, Jerusalem, Israel; Int. and Res., Hadassah Medical Center; Fellowship, Toronto Western Hospital, Toronto, Canada (Neuro-Ophthalmology) and University of Minnesota (Neuro-Ophthalmology). Desires Group or institutional type practice in a medium to large size community. Write: Michael Hosotvsky, M.D., 4100 West 36 Street, Minneapolis, MN 55416.

Nov. '82. Age: 30. Nat'l bds. AB elig. MD, NY Medical College; Int., Nassau Hospital; Res., Hahnemann Medical College. Prefers solo or group practice in a small, medium or large size community. Trained in intraocular lens implantation, oculoplastic surgery, laser therapy and all aspects of medical and surgical ophthalmology. Write: Peter J. Embriano, M.D., Heather Ridge C-44, Mantua, NJ 08051.

ORTHOPEDIC SURGERY

Available on notice. Age: 36. Presently in practice (over five years). Nat'l bds; AB cert. MD, Georgetown University; Int., Lenox Hill Hospital; Res., Georgetown University Hospital. Desires Associate practice in a medium size community. Write: Christopher J. Cassels, M.D., 1390 Calle Pecos, Thousand Oaks, CA 91360.

Flexible. Age: 35. Presently in practice. Nat'l bds. AB cert. MD, Columbia University College of Physicians & Surgeons; Int., University of Virginia; Res., Harvard Combined Orthopedic Residency Program. Prefers solo, group, assoc., institutional and industrial type practice. Write: Neil J. Barkin, M.D., 9800 Falls Rd., Suite 104, Potomac, MD 20854.

OTOLARYNGOLOGY

July '82. Age: 29. Nat'l bds. AB elig. MD, Tufts University; Int., Montefiore Hospital; Res., University of Miami. Prefers group or assoc. type practice in a medium to large size community. Write: Richard G. Schiffman, M.D., 8101 Camino Real #c-318, Miami, FL 33143.

PATHOLOGY

July '82. Age: 30. Presently in practice. Nat'l bds. AB cert. MD, University of Wisconsin; Int. and Res., University of Wisconsin Hospitals; Fellowship, Yale-New Haven Hospital. Prefers group practice. Write: Renee B. Warren, M.D., 301 Millpond Village Dr., Hamden, CT 06514.

PEDIATRICS

Flexible. Age: 36. Presently in practice. Nat'l bds. AB elig. MD, Columbia; Int., University of Virginia; Res., Children's Hospital National Medical Center. Prefers clinic, group, assoc., institutional or industrial type practice. Write: Joan W. Barkin, M.D., 2415 Chilham Place, Potomac, MD 20854.

July '82. Age: 30. AB elig. MD, Guntor Medical College, Guntur, India. Int., Govt. General Hospital, Guntur, India; Res., U.O.A. Hospitals, Edmonton, Canada. No preference in type of practice or size. Write: B.R. Prasad Achanti, M.D., #310:11135-83 Ave., Edmonton, Alberta, Canada T6G2C6.

RADIOLOGY

May '82. Age: 34. Presently in practice. Nat'l bds. AB cert. MD, University of Arkansas Medical School; Int., Beth Israel Medical Center, NY; Res., St. Vincent's Medical, NY; Fellowship, Vanderbilt University Hospital. Prefers group practice in private office or hospital setting but will consider all possibilities. Write: Stephen P. Laufgraben, M.D., 19 Poplar Ave., Wheeling, WVA 26003.

SURGERY

GENERAL & VASCULAR. July '82. Age: 34. AB cert. MD, King George's Med. College, Lucknow University, Lucknow, India; Int., University of Lucknow Hospitals; Res., NY Infirmary-Beekman Downtown Hospital and NY University Medical Center; Fellowship, VA Medical Center, Albany, NY. Prefers a community and hospital where there is a need and facilities for Vascular Surgery. Write: Rajendra M. Agrawal, M.D., 7-2L, Winding Brook Dr., Guilderland, NY 12084.

VASCULAR. July '82. Age: 32. Nat'l bds. AB cert. MD, Boston University School of Medicine; Int. and Res., Roosevelt Hospital, NY; Fellowship, Cleveland Clinic Foundation. Desires group-partner practice in clinical vascular or general-vascular surgery. Write: CSMS, SUR/JMM (to be forwarded).

Immediately. Age: 37. AB elig. MD, A.M. College, Aslam, India; Int. and Res., Misericordia Hospital, NY. Small to medium size solo or group practice. Write: Bijoy B. Sarmaroy, M.D., 631 E. 235th St., New York, NY 10466.

VASCULAR SURGERY & GI ENDOSCOPY. Aug. '82. Presently in practice. Age: 31. Nat'l bds. AB cert. MD, Loyola University, IL; Int., St. Francis, Evanston, IL; Res., Loyola University, IL. Prefers assoc., solo, or group type practice in a medium size community. Write: Douglas A. Schipitsch, M.D., Box 262, Cumberland, WI 54829.

COLON & RECTAL. July '82. Age: 36. AB elig. MD, University of Milan, Italy; Int., Dis Hospital Meudritis, Switzerland; Res., Maimonides Medical Center, Brooklyn, NY; Fellowship, Greater Baltimore Medical Center. Prefers solo, group, assoc. or institutional type practice in a large community. Write: Marian Fleischer, M.D., 6603 Bonnie Ridge Drive, Baltimore, MD 21209.

July '82. Age: 42. Licensed in Connecticut. MD, Rangaraya Medical College, Kakinada, Andhra Pradesh; Int., Govt. General Hospital, Kakinada; Res., Memorial University of Newfoundland. At present is completing another year of residency in General Surgery to complete the requirements of by the American Board of Surgery. Prefers solo, group and/or institutional type practice in a medium size community. Write: Sambasiva Rao Allada, M.D., Apt. 212, Amherst Manor Apts., Williamsville, NY 14221.

GENERAL & VASCULAR. July '82. Age 35. Nat'l bds. MD, University of Hawaii; Int., REs. and Fellowship, Baystate Medical Center. Experienced in Trauma and Hyperalimentation. Desires solo, group, assoc. or institutional type practice. Write: Chanel G. Bouchereau, M.D., 410 Elm St., West Springfield, MA 01089.

UROLOGY

July '82. Age: 35. FLEX. AB elig. MD, Techmon Haifa, Israel; Int., Beth Israel Medical Center, NY; Res., NYU Medical Center. Interested in solo, partnership, group practice or multi-specialty group practice in a medium to large size community. Write: Jacob Heyman, M.D., 271 Ave. C. Apt. 5F, New York, NY 10009.

July '82. Age: 32. Presently in practice. FLEX. AB cert. MD, Aleppo University, Aleppo, Syria; Int., St. Vincent Health Center, Erie, PA; Res., Easton Hospital, Easton, PA; Fellowship, St. Vincent-Hamot, Erie, PA. Wishes to practice in a medium size community. Prefers Multispecialty group (fee-for-service) but would consider solo type practice. Write: Samir Bsata, M.D., 4917 Sir Hue Dr., Erie, PA 16506.

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Connecticut Medicine

The Journal of the Connecticut State Medical Society

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Management of Complete Distal Aortic Occlusion

NGHIA M. VO, M.D., LOUIS BROWN, M.D. AND DONALD R. BECKER, M.D.

ABSTRACT—Eighteen cases of complete distal aortic occlusion treated over a 10½ year period are reviewed. Embolus and thrombosis are the most common causes. Nine patients presented with saddle emboli. The mean age was 66. Eight patients underwent embolectomy within twelve hours after diagnosis. The post-operative complications were related to their primary cardiac problems, associated renal disorders and respiratory failure. The overall mortality is high-66%. Nine patients with thrombosis of the aorta had a long previous history of intermittent claudication and were younger in age. All, except one, underwent a reconstructive procedure, electively within a week after diagnosis, with a lower mortality-11%.

Complete occlusion of the distal aorta is a rare and frequently catastrophic phenomenon. The process can be acute or subacute and is usually caused by thrombosis[12,14,15,17] or embolus.[2,6,7,16] The sudden disruption of blood flow to the lower extremities often leads to ischemia and gangrene. If the obstruction is not relieved rapidly, as in case of a saddle embolus, a fatal outcome is common.[2,7]

The purpose of this paper is to review our experience with 18 such cases. The etiologies and the various modalities of treatment will be discussed.

Patients

During the period between January 1970 and June 1980, 18 patients were admitted to St. Francis Hospital and Medical Center with complete distal aortic occlusion. There were seven males and 11 females, ranging in age from 22 to 89, with a mean of 60.

There were nine cases of saddle emboli (group I) and nine cases of thrombosis of the aorta (group II). Group I patients were older than those of group II (66 versus 57). They required surgery within hours after diagnosis (mean 12). Group II patients were operated on from one to 21 days after the event with a mean of seven days.

Arteriography was done in all group II patients and all showed complete distal aortic occlusion with varying degrees of collateral circulation. Only two group I patients had angiograms.

The surgical procedures and the complications are listed in Tables 1 and 2. Embolectomy was performed in eight out of nine group I patients and direct reconstruction in seven out of nine group II patients. Extra-anatomical bypass was used in the remaining two patients. The complications occurred mostly in the immediate post-operative period in the first group and this may reflect the multiple cardiopulmonary and metabolic disorders of these patients. One developed a retroperitoneal hematoma secondary to anticoagulation. Three wound infections occurred in group II patients. Bowel obstruction and thrombosis of the graft were late complications in this group.

There were seven in-hospital deaths with a total mortality of 39% (five immediate post-operative and two late deaths). The mortality was higher in group I patients (66%) compared to 11% for group II patients.

Table 1
SURGICAL PROCEDURES

Group I		*Group II*	
-Embolectomy	:7	-Aorto-bifemoral	:5
-Embolectomy and fem-fem bypass	:1	-Aorto-iliac	:1
-Axillofemoral and fem-fem bypass	:1	-Axillo-femoral and fem-fem bypass	:1
		-Bil. axillo-femoral	:1
		-Thrombectomy	:1

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Table 2

COMPLICATIONS (EARLY AND LATE)

Group I		*Group II*	
-Tachyarrythmias	:2	-Wound infection	:3
-Pulmonary edema	:2	-Late small bowel obstruction (2 yrs.)	:1
-Pulmonary emboli	:1	-Bilateral hip disarticulation (2 yrs.)	:1
-Renal failure	:3	-Thrombosis L limb of graft (2 yrs.)	:1
-Kidney infarction	:1	-Thrombosis "Y" graft (7 yrs.)	:1
-Sepsis	:2		
-Cystitis	:1		
-Graft infection	:1		
-Retroperitoneal hematoma	:1		
-Wound hematoma	:1		
-Rethrombosis of iliac A.	:1		

Discussion

Saddle Emboli: Multiple conditions are known to be associated with distal aortic occlusion. By far, the most common is saddle embolus which accounts for 9% of all embolic phenomena.[2,7,16] The diagnosis is relatively easy in the case of an elderly patient with known atrial fibrillation or recurrent myocardial infarction who suddenly develops the characteristic five P's of vascular insufficiency: pain, pallor, paresthesias, pulselessness, paresis.

The causes of saddle embolus are varied: atrial fibrillation (63-90%), mitral stenosis (12%), recent M.I. (13-33%).[6,16] Other uncommon causes include: myxoma, cardiac vegetations . . . . Only six cases of intracardiac myxomas causing saddle emboli have been reported.[11]

Survival is rare with medical treatment alone: 11% in Albright's series.[2] These patients usually succumb to a combination of factors, from the metabolic changes due to the acute occlusion, the multiple simultaneous visceral embolizations[4] to the underlying heart disease.

Embolectomy remains the treatment of choice. The golden period for embolectomy is 12 hours, but survival has also been reported with an embolectomy done up to 3½months after the onset of symptoms.[7] The arterial occlusion is accompanied by skeletal muscle injury which begins two hours after ischemia and severe changes occur within six or eight hours.[4] Gangrenous changes may occur and will lead to rigor mortis and associated nephropathic-metabolic changes.[9] Pulmonary emboli are frequently found at autopsy in these cases.[13]

Aggressive surgical management is advised[10] even with a long delay between the embolic episode and the time of diagnosis. Rigor mortis and proximal gangrene preclude embolectomy. Drager[8] suggested an extra-anatomical bypass if the embolectomy failed. This was employed in one of our patients. The duration of the surgical procedure, the uncontrolled pulmonary edema, possible further embolizations contributed to her demise. Analysis of the high mortality in our group showed that 66% of those who died were found to be in poor condition preoperatively with renal failure, electrolytes imbalance . . . . An early surgical intervention without correction of these factors may increase the mortality. It is to be noted that the mean age of five out of the six patients who died is 77. Probably a stricter selection of these patients for revascularization might have decreased the mortality. One of these patients with known hepatoma embolized her aorta. Following embolectomy, she succumbed to further embolizations. This may be related to a "hypercoagulable state" induced by a malignancy.[1]

One patient sustained a severe automobile accident, required multiple operations and was treated with multiple courses of antibiotics. Subsequently, he developed a saddle embolus caused by Aspergillus fumigatus. This prompted an evaluation of the heart allowing the detection of valvular vegetations. The patient did well following valve replacement but went on to die five months later of fungal sepsis. Only seven cases of aortic mycotic embolizations have been reported previously.[18] Predisposing factors include: open heart surgery, prolonged antibiotic therapy, drug addiction. The mortality is high: 84% and is related to the underlying fungal endocarditis.[18]

Thrombosis: Leriche described the first case of thrombosis of the aorta in 1923. Its incidence varies between 2-4% of all atherosclerotic aortic disease.[5,17] The process may be acute or subacute (one acute and eight subacute in this series). Acute thrombosis may be very difficult to differentiate with saddle embolus and should be treated as such initially. On the other hand, patients with progressive thrombosis of the aorta will usually present with a long history of intermittent claudication but minimal ischemic changes.[12,17] They are usually in their mid-50's, chronic smokers (at least one pack per day in this series) and non-diabetics.

All patients in this series, except one, underwent an anatomic reconstructive procedure. The operation with infrarenal occlusion consists in a direct thrombectomy of the distal aorta, after clamping the aorta and both renal arteries, followed by a bypass graft.[5,12] Non-operated patients may succumb to renal failure due to a progressive extension of clots to the renal artery orifices.[5,15] The operative mortality is low (4-10%).[5,12] The one death in our group occurred secondary to an M.I. on the first post-operative day. A direct reconstructive procedure is favored over an extra-anatomical bypass, which should be reserved only for poor risk patients. Casali[5] also suggested that optimal preoperative hydration may lower the surgical mortality. The late morbidity is minimal and is usually related to thrombosis of the graft and further vascular insufficiency of the lower extremities.

Stubbs[15] divided patients with Leriche syndrome into two groups: those with good and those with poor distal runoff. The latter group is older, has symptoms of longer duration, subsequently may require further surgery. Careful evaluation of the distal runoff in these patients will optimize the results of revascularization. One patient, who probably belongs to that group, developed further vascular insufficiency of the right lower extremity, one year following an aorto-bifemoral bypass graft. Because of poor runoffs, she was not considered a candidate for further revascularization. She underwent a right A-K amputation, followed by a right hip disarticulation because of poor healing. She continued to smoke and returned the following year for a left hip disarticulation for gangrene.

Thrombosis of one limb of a bifurcation graft is not uncommon and occurred in one patient two years after aorto-bifemoral bypass graft. Thrombosis of the entire graft is rare and usually occurs at the aortic anastomosis. Bell[3] reported a case of thrombosed "Y" graft two days after resection of a thrombosed aortic aneurysm, resulting in a bilateral A-K amputation. Haimovici[9] reported a thrombosed "Y" graft six years after the primary procedure. In one of our patients, the graft thrombosed seven years after the bypass, but remained patent following embolectomy.

Conclusion

Eighteen cases of obstruction of the distal aorta operated upon in this institution over a 10½ year period are reviewed. The overall mortality is 39%. Patients with an embolic phenomenon, although operated upon earlier, had a poor prognosis and succumbed to various cardio-respiratory and metabolic disorders. Patients with thrombosis generally will do well. It has been taught that the sooner blood flow can be restored to an acutely ischemic extremity, the better will be the chance for salvaging this limb. Our high mortality suggests, however, that surgery be preceded by an intensive period of hydration, stabilization of the cardio-pulmonary status, with Swan-Ganz monitoring if required, and an attempt to restore adequate urine output. This will enable the patients to better tolerate the metabolic stress of revascularizing an acutely ischemic extremity.

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A Stress Management Program with Biochemical Assay

STEPHEN T. SINATRA, M.D., V. ABRAHAM KURIEN, M.D., HOLLY HATCH, M.S.W., BRENDAN MONTANO, M.D. AND DAVID CAMAIONE, PH.D.

ABSTRACT—The link between stress and cardiovascular disease recently has been gaining increasing popularity among health care professionals. In a stress management seminar, 40% of fifteen volunteers had significant elevations of urine 17-hydroxycorticosteroids. This finding was more apparent in male participants, particularly in those with a history of clinical cardiovascular disease and probably reflects the association of biochemical alterations and frequently observed pathological situations. There appears to be a significant relationship between personality, psychosocial events and one's interaction with stress and illness. Physicians need to be cognizant of stress and tension management for their patients and particularly themselves since the stress of modern medicine has resulted in burn-out and maladaptability in a considerable portion of health professionals. Teaching people how to cope with stress that relates to disease is a significant step in preventive medicine. The following is a discussion of a stress management seminar utilizing a biochemical parameter as an index of emotional arousal.

For many centuries, psychosocial and behavorial factors have been known to influence disease. Maimonides, in his essays on health and youth,[1] concluded that emotional disturbances caused marked changes in the body. Sir William Osler,[2] lecturing before the Royal Academy of Physicians in the early twentieth century discussed the "Type A" personality characteristics of the angina prone individual, formerly discussed by Rosenman and coworkers[3] as significant factors in the development of coronary heart disease. Recently, there has been renewed interest in the literature[3-7] in the documentation of stress and the pathology of cardiovascular disease. These reports have included numerous animal models in addition to retrospective and prospective population studies and have documented that chronic exposure to emotional stimuli leads to biochemical changes in the body that may predispose to pathological conditions. For instance, Thiel et al,[6] describes the high levels of anxiety, depression and sleep deprivation apparent in coronary patients, and Green et al,[7] describe the high incidence of myocardial infarction and sudden death in depressed individuals with sudden changes in their psychological arousal. The recognition that biochemical alterations and relationship to pathological situations appear to present a major challenge to contemporary health care professionals. Group therapy sessions have been utilized by physicians in helping susceptible individuals recognize established and frequently unsatisfactory psychological responses to life situations. The analysis and strengthening of coping strategies associated with alleviation of "arousal" has become a new therapeutic endeavor in the management of these patients.

Patients and Methods

In a stress management seminar, 18 volunteers agreed to collect 24 hour urine samples for 17-hydroxycorticosteroids. After a two hour introductory session concerning the philosophy of stress and illness, a question and answer period followed enabling the participants to become familiar with the group and to alleviate any effects of novelty on the study. Immediately following the group session and after voiding at

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11:00 a.m., the participants began a 24 hour urine collection. The stress management seminar commenced at 11:00 a.m. and terminated at 7:00 p.m. The focus on this group session was to have participants look at their own reasons for creating stress and tension in their lives. Each person had an opportunity to examine his attitudes and beliefs, and assistance and feedback were obtained from group leaders. Beliefs and attitudes were also examined through relaxation techniques utilizing the Jacobson technique in progressive relaxation as well as other body processes. Each process led to further understanding of how that person participates in creating his own stress. The response of this awareness was considerably varied; it resulted in a great relief to some and a high level of resistance and anxiety for others. The expression of any emotions was encouraged throughout the seminar. A second 24 hour urine collection was obtained 72 hours after the first collection. Urine from three participants had to be discarded because of incomplete 24 hour urine collection. Fifteen urines were collected and analyzed by the modified Porter-Silber reaction for 17-hydroxycorticosteroids.

Results

40% of the patients had marked elevations in the urinary 17-hydroxycorticosteroid fractions. In Table 1, the values of the urinary 17-hydroxycorticosteroid fractions for nine females are shown. Only one female showed a marked elevation of the urinary 17-hydroxycorticosteroid. Table 2 shows the values of the urinary 17-hydroxycorticosteroid fractions in the male participants. Five of the six males showed marked elevation of the urinary hormone.

Table 1

17-HYDROXYCORTICOSTEROIDS

(Normal Range—2-6 mg/24 hour)

Females	*Stress*	*3 Days Later*
J.S.	2.9	4.5
M.B.	11.0	5.4
K.P.	7.2	5.9
V.C.	6.2	5.4
C.R.	9.2	10.2
D.T.	2.4	7.2
L.W.	9.2	6.2
K.M.	4.0	4.0
D.R.	4.9	5.4
	6.33 - Mean	6.02 - Mean
	3.03 - S.D.	1.8 - S.D.

Table 2

17-HYDROXYCORTICOSTEROIDS

(Normal Range—2-10 mg/24 hour)

Males	*Stress*	*3 Days Later*
D.S.	13.6	6.1
T.M.	21.6	9.4
A.C.	10.2	7.2
T.C.	14.7	6.0
R.T.	13.8	4.4
T.W.	9.5	4.7
	13.9 - Mean	6.3 - Mean
	4.3 - S.D.	1.8 - S.D.

Comment

Two interesting findings were noted in this small group of patients. Although the expected individual variation of 17-hydroxycorticosteroids was present in this group of patients, 83% of males had marked elevations of 17-hydroxycorticosteroids during the 24 hour collection whereas only one of the female participants had similar changes.

The unexpected variation of 24 hour urine collection for 17-hydroxycorticosteroids in stressful situations has previously been studied[8] and may be a reflection of independent cortisol secretion unrelated to any specific anxiety provoking events or environmental stimuli.

Wolff and coworkers,[9] however, suggested that the effectiveness of defense mechanisms and ability to cope with threatening situations appear to be a dominant factor in cortisol secretion and may perhaps be the major role in the individual response to threat. In their study with parents of children with terminal illnesses, effective defensive mechanisms may have allowed for lower psychic tension resulting in reduced 17-hydroxycorticosteroids.

In our study, the individual variation was present within the normal range of the female group; however, all but one male had marked elevation of 17-hydroxycorticosteroids. A possible explanation for the increase in males would suggest that men, in general, may experience an inability to express emotion and perhaps adapt to stress in a group and henceforth may easily trigger high levels of cortisol. Miller[10] showed that failure to adapt was a significant indicator in the increase of urine 17-hydroxycorticosteroids in inexperienced Vietnam military pilots. Further clinical analysis of the male participants fortuitously revealed the strong presence of cardiovascular disease in four of the five participants with elevation of the urinary hormone. The association of increased 17-hydroxycorticosteroids, maladaptability, inability to experience emotions and clinical disease is of considerable provocative interest and perhaps worthy of further study, particularly since correlation between coronary artery disease and increased cortisol levels has previously been demonstrated.[11] If Selye's "general adaptive syndrome"[12] has any relevance to the pathologic response to stress, perhaps consideration should not only be given to the nature of the stressful stimulus, but also to the stimulus response model with interaction of the individual's perception, ego, and defense. Moreover, a key point suggested by Wolff et al[9] is that individuals may have different susceptibilities to various types of medical illnesses, on the basis of their own characteristic response to stress. This hypothesis is further elucidated by Cassell[13] in suggesting that psychosocial events may serve as conditional stressors that may accelerate susceptibility to disease. Perhaps the experience of some disease states is in reality the breakdown of one's self-image, inner strength and perceived support systems. Additional biochemical studies appear warranted in determining the interaction of biochemical parameters in pathological situations. For instance, Taggart and Carruthers[14] have demonstrated that autoagression and acute emotional stress of race car driving has resulted in considerable elevations of catecholamine levels and endogenous free fatty acids and triglycerides. The hormones of fight or flight, i.e., catecholamines may be more appropriate to measure when a threat to survival is perceived as the major determinant of acute emotional stress. Adrenocortical hormones may then be considered more specific in stressful situations dealing with emotional urgency, arousal and anxiety.[15,16] Serial measurements of urinary 17-hydroxycorticosteroids perhaps could be utilized as an effective means of assessing individual responses to stress management sessions.

Summary

A stress management seminar utilizing the measurements of urinary 17-hydroxycortcosteroids as a reliable index of emotional arousal[15] was administered to various male and female participants in a group setting. The purpose of such a session was to teach participants how to be cognizant of their limits of arousal and how to utilize coping strategies in the reduction of stress and tension. Significant changes in urinary 17-hydroxycorticosteroid levels were noted particularly in male volunteers with a history of cardiovascular disease. Increased production of hormone may be an indicator of disease and perhaps be a reflection of ineffective defense mechanisms, maladaptability, and/or susceptibility to emotional stress. This recognition in patients with a history of clinical disease emphasizes the need for stress and tension management sessions as an appropriate maneuver in the treatment of patients with cardiovascular disease. Efforts must be made to make people aware of how destructive, high-stress behavior can negatively impact on one's life style. Physicians need to be aware of ineffective coping strategies, inefficient support systems and increased psychological arousal. Perhaps earlier and more frequent utilization of psychiatrists, psychotherapists and other stress management professionals would appear warranted in helping people deal with the frustrations of modern living.

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Disseminated Herpes Zoster and the Syndrome of Inappropriate Antidiuretic Hormone

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ABSTRACT—It has been reported that Ara-A (Vidarabine) is associated with the development of the syndrome of inappropriate antidiuretic hormone (SIADH).[1] A case is presented in which a patient with disseminated herpes zoster presenting with the SIADH was successfully treated with Ara-A. It is observed that the SIADH was related to the viral infection, that the sodium abnormalities were not a contraindication to the administration of Ara-A and that resolution of the viral syndrome led to the resolution of the SIADH.

Case Report

A 66-year-old white male came to medical attention in October 1978 with enlarging masses in his axillary and inguinal areas. On physical exam, there were large, soft, matted axillary and inguinal lymph nodes and less marked adenopathy in the cervical, supraclavicular and epitrochlear areas. The spleen and liver were not palpable. A complete blood count revealed a hemoglobin of 12.2 gms/dl and a hematocrit of 36%. The white blood cell count was 34,000 per mm^3 with a differential count of three segmented neutrophils, one eosinophil and ninety-six lymphocytes per 100 cells. On smear, the lymphocytes were small and mature.

A chest x-ray revealed hilar adenopathy. The liver/spleen scan was interpreted as showing minimal hepatosplenomegaly. Chemistry testing revealed a fasting blood sugar of 97 mg%, BUN 12mg%, creatinine 0.9mg%, serum sodium 139 meg/1, potassium 3.9 meg/1, chloride 105 meg/1, CO2 31 meg/1 and uric acid 5.0 mg%. Thyroid functions revealed a resin T3 uptake of 43% and a T4 of 9.9 mcg/dl which were within normal limits. Serum protein electrophoresis demonstrated a marked hypogammaglobulinemia. The total protein was 5.7 gm/dl, albumin 3.89 gm/dl and the gammaglobulin was .3 mg/dl.

On the basis of this information and after oncology consultation the patient was considered to have chronic lymphocytic leukemia.[2] Therapy with oral chlorambucil, 2 mg. per day, was instituted. The patient was followed as an outpatient without event for 16 weeks. At that time there was a 25 percent decrease in the size of his adenopathy. His hematological evaluation revealed a white count of 5700 per mm^3 and chlorambucil was discontinued February 14, 1979.

In March 1979, the patient presented with fever and rash. He said he had been exposed to a grandchild with chicken pox. Two days prior to seeking medical attention he had developed a low grade fever and a vesicular rash. When seen, he was afebrile with primarily crusted lesions and a few remaining vesicular lesions consistent with healing disseminated herpes zoster. Three days later, however, he developed a temperature of 39.4°C and multiple new vesicular lesions and was admitted to the hospital.

Physical exam revealed the widespread vesicular rash consistent with severe disseminated herpes zoster. There were enanthema on his palate and uvula. The zoster lesions spared his ocular regions. His adenopathy was unchanged from his previous exam. The blood pressure was 120/80 without orthostatic change. His chest was clear to percussion and auscultation. The abdomen was unremarkable. White count was 4300 per mm^3 with a differential of 16 segmented neutrophils, 6 band forms, 4 eosinophils, and 74 mature lymphocytes per 100 cells. The platelet count was 132,000 per mm^3. Chest x-ray showed no evidence of pneumonia. The blood and urine were cultured. The serum glucose was 157 mg%, BUN 17 mg%, sodium 127 meg/1, potassium 4.4 meg/1. chloride 89 meg/1, and the CO2 was 25 meg/1. Urine specific gravity was 1.030. Oral fluids were encouraged overnight.

The following morning the temperature was 40.3°C and the patient had diffuse skin lesions in the vesicular stage. The glucose was 116 mg%, BUN 16 mg%, uric acid 3.6 mg%, sodium 118 meg/1, potassium 3.9 meg/1, chloride 94 meg/1, and the CO2 was 23 meg/1. Urine specific gravity remained 1.030. Serum osmolality was 248 mOsm/kg. Urine osmolality was 726 mOsm/kg. An afternoon plasma cortisol was 31 mcg/dl. Thyroid functions were within normal limits with a resin T3 of 44%, a T4 of 7.6 mcg/dl and a free T4 index of 3.4 (2.2-4.7). At this point, his clinical diagnoses were chronic lymphocytic leukemia,[2] severe disseminated herpes zoster,[3] and SIADH.[4, 5]

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Table 1

CLINICAL AND LABORATORY DATA OF PATIENT WITH HERPES ZOSTER AND SIDAH

Date	*3/12*	*3/13*	*3/14*	*3/15*	*3/16*	*3/17*	*3/18*	*3/19*	*3/20*	*3/21*	*3/26*
Na (meg/1)$_a$	127	118	123	116	125	131	135	140	141	142	136
BUN (mg/dl)	17	16	20	15	12	28	20	15	15	19	21
OSMS (mOsm/kg)$_b$	—	248	247	244	—	—	—	—	—	—	—
OSMU (mOsm/kg)$_c$	—	726	684	755	—	—	—	—	—	—	—
NaU (meg/1)$_d$	—	—	91 (h)	—	—	—	—	—	—	—	—
Temp (°C)	39.4	40.3	39.4	39.4	40.0	39.4	38.9	38.9	39.2	38.3	37.0
Zoster$_e$	++	++	++	+	+	? (g)	?	±	±	−	−
Weight (kg)	—	91.7	94.4	95.3	91.3	89.4	88.5	88.5	88.1	86.7	82.2
Intake (cc/day)$_f$	?	3300	4600	2000	1750	2300	2500	2500	1600	1200	1200
Ara-A (mg/day)	—	400	1200	500	1050	1000	1200	1200	200	0	0
HNS-F-D$_i$	—	—	F	HNS-F-D	D	D	D	D	D	D	—

a) Serum sodium
b) Serum osmolality
c) Urine osmolality
d) Urine sodium
e) + = vesicular lesions
− = healed lesions

f) Approximate oral and IV intake
g) ? = data not recorded
h) Value prior to administration of furosemide
i) HNS - Hypertonic Normal Saline
F - Furosemide
D - Demeclocycline

In view of the unremitting nature of his infection, it was decided to begin an infusion of Ara-A as a life-saving consideration[6] in spite of the underlying SIADH. To administer an adequate dose of the drug (1200 mg per day), it would be necessary to infuse 2000 to 3000 ml of intravenous fluids per day (400 to 600 mg of Ara-A per liter).[7] Four hundred milligrams of Ara-A were diluted in one liter of 5% dextrose and normal saline, and infused at 125 cc per hour. Furosemide was administered. After 24 hours of therapy the serum sodium was 123 meg/1. After 48 hours the sodium had fallen to 116 meg/l and the patient was mildly confused. His temperature remained at 39.4°C but his skin lesions had begun to mature from vesicular lesions to crusted lesions and new lesions were less extensive. His furosemide dose was increased and 3% normal saline was administered.[8] Blood cultures and urine cultures were repeated and he was begun on demeclocyline 300 mg. bid.[9] On the sixth day of administration of Ara-A, his skin lesions were primarily crusted and inactive. The serum sodium was 140 meg/1. Two days later all skin lesions were in the healing phase, his temperature was 38.3°C, and all therapy was discontinued. At that time, his BUN was 19 mg% and the serum sodium was 142 meg/1. Table 1 summarizes his hospital course.

Thereafter the patient was followed without specific therapy or fluid restriction. On routine follow-up one month after discharge from the hospital his BUN was 7 mg% and the serum sodium was 135 meg/1. The patient never again demonstrated electrolyte abnormalities. He was readmitted to the hospital on two occasions in the summer of 1980 with bacterial infections. The first was a gluteal abscess and the second was a severe gingival infection. In October 1980 he was admitted with *Pseudomonas* and *Hemophilus* pneumonia and eventually succumbed to *Pseudomonas* and *Hemophilus* sepsis after a prolonged hospitalization.

Discussion

The patient under consideration with chronic lymphocytic leukemia presented with disseminated herpes zoster and SIADH. From the data available it is suggested:

a.) The SIADH in this patient was attributable to the acute severe disseminated herpes zoster viral infection. The resolution of the hyponatremia coincided with the improvement in the patient's viral infection.

b.) The SIADH was not caused by the administration of Ara-A in this patient as it was well documented prior to the initiation of treatment with Ara-A and resolved with resolution of the viral infection and appropriate therapy for SIADH in spite of continued Ara-A therapy.

c.) The SIADH is not a definite contraindication to the use of the poorly soluble Ara-A in patients with disseminated herpes zoster. In the patient under consideration, initial worsening of the hyponatremia was associated with administration of Ara-A and its requisite volume of intravenous fluid. However, the hyponatremia responded satisfactorily to the restriction of oral fluids and to the administration of furosemide, hypertonic saline and demeclocycline.

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Appearance of Sick Sinus Syndrome after Years of Micturition Syncope

A Case Report

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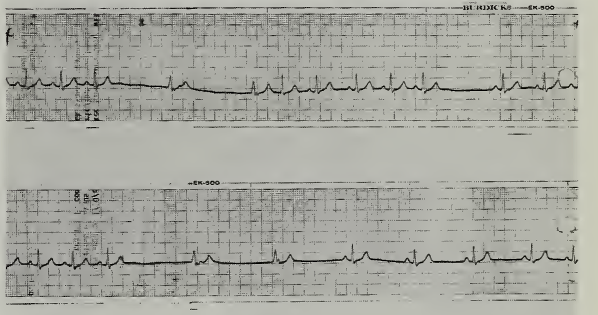
ABSTRACT—The identification of a sick sinus syndrome occurred in a 61-year old male with a 23-year history of micturition syncope. Detailed annual periodic examinations had revealed no clinical or electrocardiographic evidence of cardiovascular disease until he experienced the awareness of an irregular heart beat without any other symptoms. An ECG during the episode of palpitation revealed marked sinus arrythmia with periods of sinus arrest. A permanent pacemaker was promptly implanted.

It would seem prudent to closely observe patients with a history of micturition syncope for the appearance of a sick sinus.

The development of sick sinus syndrome requiring implantation of a permanent pacemaker occurred in a patient with a 23-year history of micturition syncope. The events which led to the recognition of the need for a pacemaker and the value of follow-up for a prolonged period of time occasioned this report.

In July 1980, a 61-year-old male executive, while sitting at his desk at work, developed a vague sensation of an irregular heart beat without chest pain, unusual perspiration, shortness of breath, lightheadedness, or other symptoms. Within five minutes, he reported to the medical facility at his place of employment. Physical examination revealed a blood pressure of 160/90, an irregular pulse rate ranging from 50-94 per minute, and respirations of 18 per minute. Skin was normal without unusual perspiration; lungs were clear to percussion and auscultation and the heart sounds were of good quality without murmurs or systolic click; no S3 or S4 was audible. The balance of the examination was unremarkable. An electrocardiogram revealed a marked sinus arrhythmia with periods of sinus arrest and ventricular escape beats (Figure 1). The patient was transferred to a hospital for implantation of a temporary pacemaker and, on the following day, a permanent pacemaker.



Continuous Strip

Figure 1

Annual periodic health appraisals in his company had been objectively normal from the cardiovascular standpoint, including a 24-hour Holter monitor study in June 1980, just one month prior to the demonstrated need for a pacemaker. The patient had maintained an excellent level of physical conditioning by jogging three times per week for two miles, regularly achieving a heart rate of about 135 per minute without symptoms or detection of an irregular pulse.

It is interesting to speculate about the possibility of special susceptibility to the development of the sick sinus syndrome in a patient with a known history of micturition and vasovagal syncope. He had experienced the first episode of nocturnal micturition syncope in 1956 at 38 years of age. Subsequent episodes had occurred in 1963, 1966 and 1979. On each of these occasions, the patient recalls having ingested modest amounts of alcoholic beverages, retired feeling perfectly

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well, risen from a warm bed, and lost consciousness while standing to micturate. Recovery was prompt without injury to himself with the exception of the last episode. On that occasion, the patient and his wife were cruising the coast of Maine in their sailboat. While at anchor in a remote, unpopulated harbor, he arose in the middle of the night to void from the deck of the vessel, although he had been specifically cautioned by the writer not to do so in view of his previous history. In the act of voiding and without premonitory symptoms, the patient fainted and fell overboard into 55° water. His wife heard the splash and arrived on deck to find her husband floating face down in the water. In a few moments, the patient recovered consciousness and with great effort managed to climb aboard and collapsed, exhausted. For 24 hours, he suffered from the exposure and immersion, experiencing vomiting, cough with "burbling" respirations and six hours later, a temperature of 100.6° for six hours. After these symptoms subsided, he sailed his boat to Massachusetts without any further untoward events. Examination one week later was unremarkable including a chest X-ray and electrocardiograph.

Further history revealed suspected vasovagal episodes with syncope in 1947, 1950 and 1964 while witnessing medical treatment to members of his family (intramuscular injections or repair of lacerations). One additional syncopal episode occurred in January 1980 when, while skiing, a fall caused by excruciating pain in one shoulder. He immediately lost consciousness and regained it in the ski patrol's first-aid room to which he had been moved by toboggan. Evaluation at a local hospital's emergency room revealed no clinical or electrocardiographic abnormalities. Palpitation which had caused him to seek medical attention in July 1980 had not occurred with any of the micturition or vasovagal syncopal episodes, and there was no lightheadedness or feeling of possible syncope at the time he presented with the periods of sinus arrest.

It would seem prudent to maintain a high index of suspicion to recognize the appearance of a sick sinus in patients with a long history of micturition and/or vasovagal syncope.

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Recurrent Rupture of Jejunal Diverticula

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ABSTRACT—Pseudo-diverticula of the jejunum are uncommon and usually asymptomatic. Perforation of these with peritonitis is extremely rare and may not be immediately obvious during abdominal exploration. Meticulous examination of the small bowel during laparotomy is necessary for diagnosis. Treatment should consist of early exploration, local small bowel resection, appropriate antibiotic coverage, nasogastric decompression, and close perioperative observation. A case is presented in which diverticular reperforation occurred two years after initial treatment. Reperforation has never been described in the literature prior to this case. Extensive small bowel resection to involve all the diverticuli-bearing area is not feasible in most cases for fear of creating the short bowel syndrome.

There are a multitude of disease entities that can present as the acute abdomen. Some are common (like appendical rupture). Some are infrequently encountered, and must be looked for during exploration to be

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correctly diagnosed. Among these rarer causes of peritonitis are ruptured jejunal diverticula. Even during laparotomy, such diverticula can be difficult to diagnose because of their frequent hidden intramesenteric position.[1] Less than 50 ruptures have been reported in the literature.[1] No case of recurrent diverticular rupture in the same patient has been previously described.

Case Report

This 74-year-old white male was first presented with several hours of increasing continuous abdominal pain in November, 1979. Physical examination revealed an acute abdomen with diffuse guarding and rebound tenderness. White blood cell count was 17,000 and his temperature was 101°F. Fluid resuscitation was started; preoperative Ampicillin, Gentamycin, Cleocin and Clindamycin were given, and laparotomy performed. Careful abdominal exploration revealed diffuse peritonitis, and a phlegmon associated with the proximal jejunun and left transverse colon. Appendectomy and proximal segmental small bowel resection including the phlegmon were performed. A transverse colon loop was exteriorized because of the splenic flexure's peripheral involvement in the inflammatory mass. Pathological evaluation of the submitted small bowel showed an intramesenteric perforation of jejunal diverticula with communication into the peritoneal cavity and much associated inflammation. Delayed primary wound closure, nasogastric suction, and intravenous fluid replacement were followed by rapid recovery and return of bowel function on the fourth postoperative day. Peritoneal fluid culture grew E. coli. The exteriorized transverse colon loop was replaced intraperitoneally without having been opened, and subsequently the patient was discharged from the hospital.

He presented again with sudden severe abdominal pain in late July, 1981. This time, however, the abdomen was soft to palpation. Nasogastric suction and intravenous fluid therapy without antibiotics resulted in rapid improvement and discharge five days after admission.

In late September, 1981, another attack of severe abdominal pain, this time epigastric and radiating to the mid back, was noted. Abdominal examination again showed rebound tenderness, diffuse guarding, and an epigastric mass. White blood count was 14.2 with a left shift. Fluid resuscitation was started, Mandol (Cefamandol naftate) administrated I.V., and the abdomen again explored. Adhesions, turbid peritoneal fluid and phlegmon of the jejunal mesentary with free perforation were encountered (Figure 1). Many other non-inflammed small bowel diverticula were present (Figure 2). The previous resection's suture line was present and intact one foot proximal to the mass. Segmental small bowel resection was again performed. The cultured peritoneal fluid grew E. coli, K. pneumoniae, and C. perfringens. Postoperative G.I. barium study showed both suture lines patent and multiple remaining diveticula still present (Figure 3). The patient was again managed with antibiotics, nasogastric suction, and intravenous fluids. He had an unremarkable postoperative course and was discharged on the tenth postoperative day.

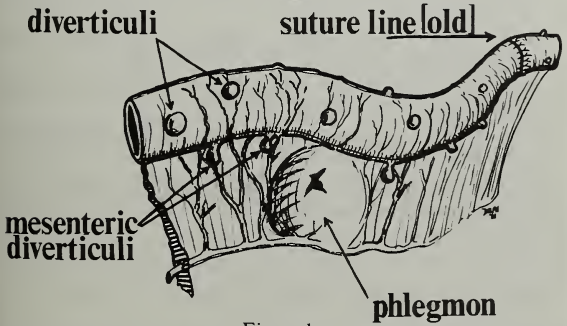

Figure 1
Representation of second diverticular rupture with phlegmon and proximal suture line.

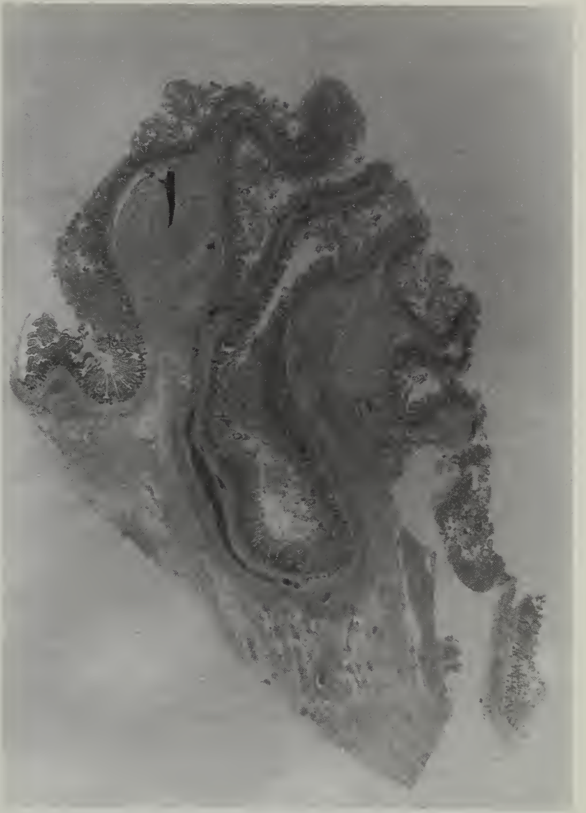

Figure 2
Jejunal pseudo-diverticulum with rim of muscularis mucosae—well removed from perforated area and uninflammed.

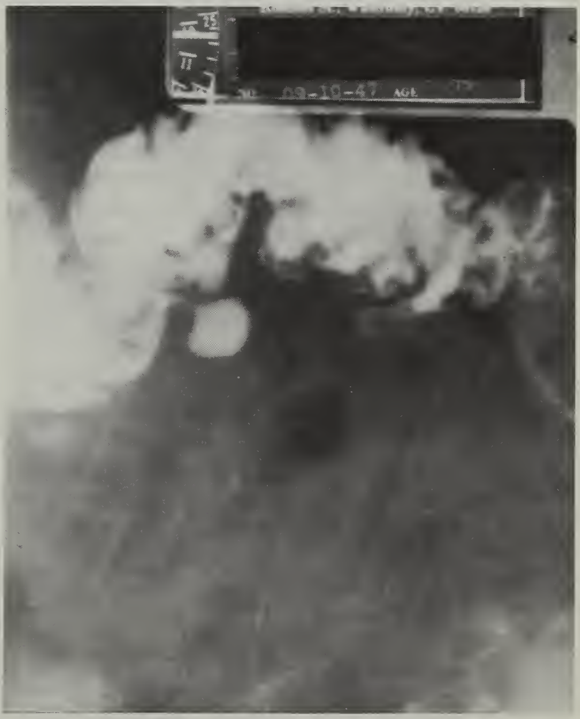

Figure 3
Multiple remaining diverticula on postoperative barium study.

Discussion

Generally considered to be asymptomatic, jejunal diverticula are found in approximately 0.6% of autopsies.[2,3] The first reported cases of jejunal diverticula were published by Sommering in 1794 and Voigtel in 1804.[4] In 1921, Hunt and Cook were the first to successfully excise a jejunal diverticulum.[5] Upper G.I. barium studies show these diverticula in 0.42% of patients.[4] The highest incidence of this abnormality is thought to be in elderly males (age greater than 60).

In contrast to Meckel's ileal diverticulum, jejunal diverticula are acquired pseudo-diverticula consisting of out-pouchings of jejunal mucosa through the muscularis at points of low resistance where blood vessels penetrate the bowel wall often at the mesenteric border. These diverticula are usually multiple and can be larger than their colonic counterparts. The natural history of their infrequent rupture is not fully understood (it could be accounted for by the lower intraluminal pressures in the small bowel as compared to the colon).

Symptomatology from jejunal diverticula is varied. Many patients have mild nonspecific nausea, vomiting, and crampy abdominal pain, a syndrome termed "intestinal dyskinesia."[6] Malabsorption, steatorrhea and vitamin deficiency have been associated with bacterial overgrowth within these diverticula.[7] Fistulization,[8] bleeding,[9,10,11] and small bowel volvulus[12] have all been caused by jejunal diverticula. Small bowel obstruction and abdominal inflammatory masses have also been associated with these out-pouchings. Rupture is extremely infrequent;[1] but when it occurs it is usually associated with peritoneal irritation and rebound tenderness.

The diagnosis of non-perforated jejunal diverticula is generally made by upper gastrointestinal barium study. Perforated diverticula are most often found at emergency laparotomy for undiagnosed peritonitis. Radiologic abnormalities associated with diverticular rupture include incomplete jejunal obstruction, free peritoneal air, displacement of jejunal loops, extramural barium leakage, and extrinsic compression of the transverse colon.[13] Selective arteriography is helpful when diverticular bleeding is present.[14]

Surgical treatment is often undertaken late in the course of the disease in this old and fragile group of patients.[15] Delay and patient's age[1] undoubtedly contribute to the high mortality (20-50%) associated with perforation of jejunal diverticula.[16] Generally a conservative segmental small bowel resection seems to be regarded as the procedure of choice to avoid the short bowel syndrome since most of the jejunum is usually involved with the disease.[17-19]

Summary

Perforation of jejunal diverticula is rare but serious and associated with high mortality in this elderly patient group. In a review of cases at Waterbury Hospital, we found two cases of jejunal diverticular rupture (and one re-rupture) in over 400,000 admissions over the past 15 years. We have found no previous reports of recurrent jejunal diverticular rupture. Early operation, broad spectrum antibiotic coverage, delayed primary wound closure, meticulous fluid management, and rapid conservative local small bowel resection all are sound basic surgical principles on which the care of these patients can be based.

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Important Advances in Clinical Medicine

Epitomes of Progress—Preventive Medicine and Public Health

Rubella Vaccine and Congenital Rubella Syndrome Prevention

In 1979 a new live-virus rubella vaccine, derived from the RA 27/3 virus strain produced in human diploid cell culture, replaced the HPV-77:DE-5 vaccine as the only commercially available rubella vaccine in the United States. (The Cendehill and HPV-77:DK-12 vaccines were withdrawn from use earlier in the 1970's.) The serum and secretory antibody response to immunization with RA 27/3 vaccine more closely resembles that following wild virus infection than does the response to HPV-77:DE-5 vaccine. The prospect that RA 27/3 vaccine confers lifelong immunity appears very good; the probability for HPV-77:DE-5 vaccine, while good, may be slightly lower.

Sufficient field studies have shown that those immunized with rubella vaccine do not spread their live-virus infection to others; thus, persons who are household contacts of pregnant women can be immunized. Transient mild arthralgia and, rarely, transient arthritis may result from immunization in persons susceptible to rubella.

While rubella vaccine viruses can cross the placenta, the risk of teratogenesis from inadvertent immunization of a pregnant woman is low or nonexistent. It has been reported that 94 susceptible women who received HPV-77:DE-5 or Cendehill vaccine just before conception or during the first trimester of pregnancy have been delivered of normal babies. Although a much smaller number of cases (17) has been documented for RA 27/3 vaccine, there has been no proved case of congenital rubella syndrome (CRS) resulting from immunization. Nonetheless, pregnant women should not be given rubella vaccine. The US Public Health Service recommends that women of childbearing age be asked if they are pregnant before being vaccinated. If they say "no," they should be advised of the theoretical risk, instructed to avoid pregnancy for the next three months and then immunized. When time and cost are not prohibitive, women of childbearing age can be tested serologically for susceptibility before immunization, but this procedure should not be allowed to interfere with effective immunization programs.

In the United States the goal has been universal immunization of all children shortly after one year of age, thereby eliminating the major reservoir of infection. In the prevaccine era, immunity to rubella rose gradually through the first two decades of life, reaching about 85 percent in persons 20 years or older. Since the vaccine was introduced in 1969, more than 90 million doses have been distributed in this country. According to a recent California survey, by age 5 nearly 80 percent of children are seropositive, with little increase in prevalence of immunity among older children and young adults.

The effect of this reduction in the reservoir of susceptible persons has been (1) the elimination of periodic major rubella epidemics with subsequent major increases in CRS births such as that which occurred in 1964 to 1965 and (2) a general reduction in interepidemic rubella incidence, which is more pronounced in younger children than in teenagers and young adults. The interepidemic incidence of CRS appears to have decreased, although diagnostic and reporting inaccuracies make this observation tenuous.

In the United States, small-to-moderate outbreaks of rubella continue to occur among teenagers and young adults, where the risk of exposure to susceptible pregnant women is rather high. Two measures can alleviate this situation. First, since 1980 all 50 states have required rubella immunization of children entering school. If this requirement is enforced, more than 90 percent of the population should be immune by five years of age. However, because in most states this legal requirement is limited to elementary school entry because of concerns about immunizing postpubertal females, an impact on disease incidence among teenagers and young adults may not occur for at least ten years. Second, it is widely recommended that increased

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emphasis be placed on immunization of susceptible females of childbearing age, especially at several "checkpoints": premaritally, at college and military service entry, in family planning clinics, at entry to employment in hospitals and clinics, and immediately after childbirth (this last measure poses no known serious risk to breast-fed infants). Also, some investigators have urged a policy of immunizing girls just before puberty, including those previously immunized, because available data indicate that reimmunization of seronegative vaccines with RA 27/3 vaccine is effective. The need for such a reimmunization policy for rubella is still being debated.

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Contamination of Drinking Water by Organic Chemicals

Trichloroethylene (TCE) and dibromochloropropane (DBCP) were widely used chemicals in industry (TCE) and agriculture (DBCP). DBCP is no longer used as an agricultural nematocide, but TCE is still used as an industrial degreasing agent. Both of the chemical compounds have been found in significant concentrations in drinking water supplies derived from groundwater sources.

Until it was banned for use in California in 1977, DBCP was used extensively for the control of nematodes. In 1961 DBCP was shown to cause sterility and testicular atrophy in animals; in 1973 it was shown to be a carcinogen, and in 1977 it was shown to be mutagenic in the Ames test. It is now apparent that agricultural application of DBCP has resulted in the contamination of groundwater supplies and, while the investigative work continues, the contamination levels are increasing and new areas are being discovered. It is estimated that in California more than 250,000 people have been drinking water with from 0.05 to 60 parts per billion DBCP for an unknown period of time.

TCE is thought to be much less dangerous and not as active as DBCP, but the area and the apparent levels of contamination are much greater. In the past TCE was regulated primarily as an industrial health hazard; however, with the discovery of groundwater contamination in the range of one to 1,000 parts per billion, the possibility of exposure from drinking water must be considered. As with DBCP, industrial use and subsequent disposal of TCE has resulted in the contamination of drinking water supplies derived from groundwater. Likely contamination sites include areas near old industrial landfills, aerospace industrial areas, and major military and civilian airports.

The US Environmental Protection Agency (EPA) considers TCE to be a potential human carcinogen and recommends no exposure by humans to TCE. They further suggest that because a zero concentration in drinking water may be infeasible or impossible, an appropriate cancer risk level should be developed to aid in minimizing exposure and estimating the additional incidence of cancer that may result in an exposed population.

Investigation of the extent and impact of groundwater contamintion continues, and appropriate criteria for use of DBCP and TCE are expected shortly. An epidemiological survey of some DBCP-contaminated areas is under way so that adverse health effects can be determined.

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Diphtheria and Tetanus Immunization for Older Adults

About 100 cases each of tetanus and diphtheria are reported each year in the United States. The majority of tetanus cases occur in middle-aged and elderly adults and follow injuries sustained around the home and garden. Frequently the wound is so minor that medical treatment is not sought before tetanus develops. The case-fatality rate for tetanus approaches 40 percent. While most diphtheria cases occur in children, there are indications of increasing frequency in adults, especially among vagrant men. The diphtheria fatality rate is about 10 percent.

Persons born before the early 1940's, when tetanus and diphtheria toxoids came into widespread use, are likely to be inadequately immunized against these diseases. Serological surveys of elderly adults show that less than 50 percent, and in some instances as few as 30 percent, have adequate immunity to tetanus. For diphtheria the comparable figure may be as low as 20 percent.

The US Public Health Service recommends that all unimmunized persons 7 years old and older have a primary immunization series with adult-type tetanus-diphtheria toxoids (Td) consisting of three doses, the first two given four to eight weeks apart and the third given 6 to 12 months after the second. All adults should, but commonly do not, receive booster doses of Td every ten years for life. The tetanus toxoid component of Td is similar to that in pediatric diphtheria-pertussis-tetanus vaccine; however, only 10 percent to 25 percent as much diphtheria toxoid is present in the adult preparation. Severe local reactions to Td occur in 1 percent to 2 percent of adults vaccinated, and serious systemic reactions are extremely rare. Many of the severe reactions are the result of overimmunization.

Because elderly adults are often inadequately protected against tetanus and diphtheria, adults should be advised to obtain a Td booster every ten years. Middle-aged and elderly patients should be asked routinely whether they have received a tetanus-diphtheria booster during the preceding ten years. If the answer is uncertain or negative, a booster dose of Td should be given.

Adults who have received wounds should be treated as follows: If the patient has a history of two or fewer tetanus toxoid doses or an uncertain history, a Td booster dose should be given, with follow-up doses given later to bring the lifetime total to three. If the patient has a history of receiving at least three previous doses of tetanus toxoid, appropriate management depends on the nature of the wound. With a clean, minor wound, no Td booster is needed unless more than ten years have elapsed since the last dose; if the wound is more serious or involves a puncture, a Td booster should be given if more than five years have elapsed since the last dose. The use of Td, rather than single-antigen tetanus toxoid, is advised so that this dose can serve as a routine diphtheria booster as well.

Persons with only one previous dose of tetanus toxoid or an uncertain immunization history who have serious wounds (for example, deep puncture wounds, wounds with devitalized tissue, deep wounds contaminated with dirt) should be considered for passive prophylaxis with tetanus immune globulin and possibly penicillin chemoprophylaxis in addition to the necessary Td doses to complete a primary series.

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The Effect of Alcohol on Unborn Babies

In 1963 Jones and associates described a specific pattern of malformation, called the fetal alcohol syndrome, in the offspring of alcoholic women who continued to drink during pregnancy. The principal features of the disorder include prenatal-onset growth deficiency, developmental delay and a variety of structural defects including short palpebral fissures, a long philtrum with a thin smooth upper lip, multiple joint anomalies and cardiac defects. It has become clear that the fetal alcohol syndrome as it was initially delineated represents only a part of a more extensive problem. There are, for example, a large number of children born to women who drink either heavily or moderately during pregnancy who have features compatible with the prenatal effects of alcohol but who do not have the full-blown fetal alcohol syndrome. In a recent study from the University of Göteborg in Sweden, it was estimated that for every full-blown case of the syndrome, there is at least one child born with features compatible with the prenatal effects of alcohol who does not have the full-blown syndrome. In that prospective study, Olegard and co-workers determined that 33 percent of the offspring of alcoholic women who continued to drink heavily during pregnancy had the fetal alcohol syndrome and an additional 33 percent had features consistent with the prenatal effect of alcohol; only 33 percent of the offspring were normal. With respect to moderate alcohol consumption, Hanson and colleagues have estimated that 11 percent of the offspring of women who drink between one and two ounces of absolute alcohol a day during the first trimester of their pregnancy have features consistent with the prenatal effects of alcohol. For lesser amounts of alcohol, particularly "binge drinking" during pregnancy, no data are available.

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Gastrointestinal Disease

Several new viral, bacterial and parasitic agents that cause gastrointestinal disease have been identified in recent years. Studies from different parts of the world have shown that up to 75 percent of acute diarrheal disease in nonbacterial. Rotavirus is the most important viral agent causing sporadic and epidemic outbreaks of diarrheal disease in those 2 years and younger. It occurs typically in winter, causing fever and diarrhea; vomiting is less prominent. Symptoms may persist for up to eight days. Parvovirus agents, including the Norwalk agent, have been found to cause diarrhea, fever and vomiting that last one to two days in children and adults. Viral gastroenteritis is treated with supportive care.

Campylobacter fetus, formerly classified as *Vibrio fetus,* has been recognized as a common cause of diarrhea in children and adults. In a recent Canadian study. *Campylobacter fetus* subspecies *jejuni* was second only to *Salmonella* as a bacterial cause of diarrhea in children. It was not recovered from stool specimens of children without symptoms. The illness was characterized by fever, abdominal pain, which may be severe, and diarrhea, which may recur. Spread throughout a household is common and pets are possible sources of this disease. No controlled studies of treatment have been reported. Isolates are usually sensitive to erythromycin, aminoglycosides, chloramphenicol and tetracycline but resistance may develop during treatment.

Yersinia enterocolitica causes gastroenteritis in children and adults. Young children often have fever, vomiting and diarrhea and leukocytes may be present in the stool. Older children may present with pseudoappendicitis, fever and abdominal pain; mesenteric lymphadenitis occurs in some cases. Adults with *Y enterocolitica* are also affected with gastroenteritis and, at times, erythema nodosum and arthritis. This infection should be considered in pseudoappendicitis, and serological test and culture are useful in establishing the diagnosis. *Y enterocolitica* has been recovered from a variety of sources including raw milk, water supplies and wild and domestic animals. Transmission can occur from other humans or from pets, and the incubation period is usually four to ten days. The efficacy of antibiotic drugs in treating active disease is unknown as is the effect on the carrier state.

Giardia lamblia, an intestinal flagellate, has been recognized as a cause of diarrhea in travelers in many parts of the world. In the past few years, outbreaks of giardiasis have occurred in the United States resulting from consumption of contaminated water supplies and person-to-person transmission. A water supply not sufficiently chlorinated may contain *Giardia* cysts. Higher chlorine concentrations or additional treatment such as coagulation flocculation, settling or filtration is needed to kill the organisms. Humans and beavers may be natural reservoirs. Persons infected with *G lamblia* may be asymptomatic carriers of the cysts or may have chronic diarrhea, abdominal discomfort and weight loss. The average incubation period is nine days. In the acute stage, explosive diarrhea, which is watery and foul, abdominal cramping and flatulence occur, and the diarrhea and abdominal pain may continue intermittently for months. Examination of stool specimens for ova and parasites between episodes may give negative results. Because the trophozoites are found in the upper small intestine, if repeated stool examinations are negative, duodenal intubation and aspiration may be useful in making the diagnosis. Treatment of adults with 100 mg of quinacrine three times a day for seven days give excellent results. Metronidazole therapy with 250 mg three times a day for seven days also is effective. Pediatric treatment and dosage information is provided in the first reference below.

Any outbreak of infectious diarrhea is a public health problem. Professional food handlers, medical personnel and those employed in child care should not be permitted to work while they have acute diarrhea that may be infectious. If specific bacterial infection is recognized, stool specimens should be obtained and found negative for the organism before work is resumed and local health departments should be notified.

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Side Effects of Human Diploid Cell Rabies Vaccine and Human Rabies Immune Globulin

Human diploid cell rabies vaccine (HDCV), licensed for use in the United States since mid-1980, is an inactivated vaccine prepared from rabies virus grown in human diploid cell cultures. This product is much more immunogenic than the duck embryo rabies vaccine (DEV), the use of which declined drastically after licensure of HDCV. The manufacture of DEV ceased production in November 1981. Human rabies immune globulin (HRIG, or RIG), used to provide rapid but temporary protection, consists of antirabies gamma globulin prepared from plasma of immunized human donors.

Preexposure rabies prophylaxis, given to persons at special risk for rabies (such as veterinarians, animal control personnel and certain laboratory workers) consists of three 1-ml intramuscular injections of HDCV, the second given a week after the first and the third two to three weeks after the second. Prophylaxis for persons with a bite, scratch or saliva-to-mucous-membrane contact from a proved or suspected rabid animal consists of one intramuscular injection of HRIG, dosage based on body weight, and five intramuscular injections of HDCV, the first given the same day as HRIG and the other given 3, 7, 14 and 28 days later. Because HDCV has proved to be so highly immunogenic, collection of a serum specimen for rabies antibody testing after preexposure or postexposure prophylaxis is now recommended only for persons who received DEV or who may be immunocompromised.

Serious side effects are less frequent with HDCV than with DEV. No neuroparalytic reactions have been noted following HDCV; in about one in every 25,000 persons vaccinated with DEV transverse myelitis, encephalopathy, or cranial or peripheral neuropathy developed. One instance of Guillain-Barré syndrome (GBS) following HDCV has been reported. Isolated cases of GBS have been reported following administration of many vaccines, and it has been difficult to determine if causal relationships exist in such episodes. Local reactions, such as pain, redness or pruritus, have been reported in about 25 percent of HDCV recipients, while mild systemic reactions, such as fever, headache, nausea, diarrhea, abdominal pain, myalgia and dizziness, have been reported in 20 percent. Local or mild systemic reactions to HDCV usually can be managed with agents like aspirin and do not necessitate stopping prophylaxis. Rarely, allergic reactions ranging from hives to anaphylactic shock have been reported in HDCV recipients. If a severe allergic reaction occurs before completion of a HDCV series, the risk of rabies developing must be balanced against the risk of continuing administration of HDCV. In these situations, consultation may be obtained from state health departments and the Centers for Disease Control. Pregnancy is not a contraindication for HDCV.

Local pain and low-grade fever may occur in HRIG recipients, but more serious reactions have not been reported. Presumably, adverse reactions such as those reported rarely after use of immunoglobulin (IG; formerly called ISG or GG), including angioneurotic edema, nephrotic syndrome and anaphylaxis, could occur after HRIG. To reduce the possibility of an immediate severe reaction to HRIG, care should be taken to administer this preparation intramuscularly and not intravenously.

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Pneumococcal Vaccine

In spite of the dramatic effect of penicillin on the clinical course of pneumococcal pneumonia—especially in young people—Austrian has recently estimated that there are between 200,000 and 1,000,000 cases of disease with 13,200 to 66,000 resultant deaths in the United States each year. In an earlier study he and Gold found the following. (1) From 20 to 25 bacteremic pneumococcal infections were seen each year for each 100 to 125 medical ward beds ("an incidence similar to that seen before the introduction of antibiotics"). (2) Almost a fifth of those patients properly treated with penicillin or other antibiotic drugs died. The fatality rate exceeded 25 percent in patients 50 years or older and in those with underlying systemic illness. (3) Sixty percent of deaths in penicillin-treated patients occurred within five days, even when treatment had been initiated in the first or second day of illness.

Pneumococcal polysaccharide vaccine, which became available in 1978, contains the capsular polysaccharides of the 14 sterotypes most often associated with pneumococcal infections. Its safety and antigenicity were established in healthy young adults and in smaller groups of children and elderly persons. The duration of its protective effect has not been definitively determined. Antibody levels after vaccination occur in the same pattern as those following natural disease: after an initial peak, levels fall gradually over 6 to 12 months, then maintain a level at a third to a half the peak for at least five to eight years. To minimize reactions in persons who still have high antibody levels, revaccination should not be carried out at less than five-year intervals.

Studies of vaccine efficacy and cost-effectiveness are appearing in the literature. And although indications for its use are not yet definitive, it seems both safe and prudent to provide the protection of this vaccine to those who are at greatest risk of death from pneumococcal disease—that is, patients older than 2 years of age with underlying chronic systemic disease, especially those 50 years and older. Other groups of patients older than 2 years who may also benefit are those with sickle cell anemia, impaired splenic function or splenectomy, and children with nephrotic syndrome. (These are the same high-risk groups for whom influenza vaccine is recommended. Both vaccines may be given as they do not interfere with each other. However, they should not be mixed in the same syringe nor given at the same site.)

Pneumococcal polysaccharide vaccine should not be administered to those hypersensitive to any of the vaccine's components, to pregnant women or to children younger than 2 years old. Caution should be exercised in cases of febrile respiratory illness, in persons with severely compromised cardiac or pulmonary function in whom a systemic reaction would pose a significant risk and in patients who have had pneumococcal infections in the preceding three years.

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Hemophilus influenzae Prophylaxis

The secondary attack rate of *Hemophilus influenzae* type b meningitis is similar to that of meningococcal meningitis—that is, approximately 2 percent in children younger than 5 years old living at home and as high as 6 percent in infants younger than 1 year. A significant risk of secondary cases also exists in day-care centers for preschool children.

Clinical trials and pharmacokinetic studies suggest that the best drug for chemoprophylaxis of such secondary cases is rifampin in a single daily dose of 20 mg per kg of body weight per day for four days (the maximal dose is 600 mg per day). No liquid preparation is commercially available but the contents of a 300 mg capsule suspended in 30 ml of 85 percent sucrose is readily accepted by infants and children and produces reliable serum and salivary levels. Most studies show that this regimen is likely to eradicate *Hemophilus influenzae* type b carriage in the nasopharynx. Other antimicrobials such as ampicillin, cefaclor, sulfisoxazole and trimethoprim sulfamethoxazole have not been successful in eradicating carriage.

The goal of such prophylactic therapy is not elimination of the carrier state but prevention of disease. There are no controlled studies showing reduction of systemic *Hemophilus influenzae* type b disease with chemoprophylaxis. A national collaborative study of this problem has just been concluded but the results are not available at this time.

Our own practice is to prescribe rifampin for contacts of a child having *Hemophilus influenzae* meningitis. We give it to all members of a household that includes another child younger than 5 years old. We also recommend that chemoprophylaxis be considered for other children and staff in day-care centers. Since the effectiveness of this regimen is not known, such prophylaxis should not be a substitute for close surveillance.

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Zoonoses

A zoonosis is a disease transmitted from an animal, usually a vertebrate, to humans. In most cases, the person is exposed because of occupation or avocation. In the textbook by Hubbert and coworkers, *Diseases Transmitted from Animals to Man,* more than 100 conditions are listed; however, only those commonly associated with household pets will be mentioned here.

Psittacosis, a chlamydial infection of birds (especially parakeets, parrots and pigeons), is becoming more common. In 1978, 88 percent of cases in the United States occurred in persons with occupational or hobby exposure to birds. The bird may harbor this organism for a long time and by asymptomatic; however, shedding will occur when the bird is stressed by shipping or illness. In humans, infection usually results from inhalation of the agent from desiccated droppings and often presents as an acute, febrile illness characterized by headache, nonproductive cough, anorexia and change in bowel habit. Pneumonia, demonstrable on x-ray studies of the chest, develops in most patients. Recovery of the agent is not routinely done, but the diagnosis may be established by showing a fourfold or greater titer increase between acute and convalescent specimens in complement fixation antibodies. The treatment of choice in adults is tetracycline, 500 mg every six hours, continued for 10 to 14 days after the patient defervesces. A public health veterinarian should be consulted about treatment of the bird since appropriate treatment varies with the species.

Toxoplasmosis, a systemic protozoan infection, may be acquired or congenital. Acquired toxoplasmosis usually results from human exposure to the oocysts, which sporulate and become infective one to five days after excretion in the feces by a cat. The cat is usually asymptomatic and may shed oocysts intermittenly. Human disease may also follow consumption of inadequately cooked meat. The spectrum of disease in humans ranges from asymptomatic infection to acute febrile illness characterized by lymphadenopathy. In a recent outbreak, fever, lymphadenopathy, headache and myalgia developed in most of the symptomatic persons. Of these, 25 sought medical attention but only 12 percent were diagnosed as having toxoplasmosis. Diagnosis may be established by determining serum toxoplasma antibody seroconversion by indirect fluorescent-antibody test or demonstrating a specific toxoplasma IgM antibody titer of 1:16 or greater. A primary infection of women during early pregnancy may lead to death of the fetus. Infection later in pregnancy may cause chorioretinitis and brain damage to the fetus. Newborn infants and symptomatic adults who are not pregnant should be treated with sulfadiazine and pyramethamine. The threat of exposure can be reduced if cat litter is disposed of daily by a person who is not pregnant.

Dogs and cats, particularly when they are young, may transmit many other agents to their owners, including *Yersinia enterocolitica, Giardia lamblia* and *Campylobacter fetus*—all of which cause diarrhea. *Pasturella novicida,* cat scratch fever, *Toxocara canis* and *T cati* (the last two cause visceral larva migrans) are common in pets. Children acquire these infections by eating dirt containing the eggs. Infection can be prevented by periodic deworming of household dogs and discouraging pica in children.

Some zoonoses, such as animal ringworm, are a nuisance to humans; others, such as leptospirosis may be life threatening. Thus, pediatric and adult histories should include questions concerning exposure to animals at work, at home or through recreational activities, such as camping, to speed accurate diagnosis of the illness.

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The Hazard in Consuming Raw Milk

A recent editorial in *The Lancet* noted that Q fever, paratyphoid fever and gastrointestinal infections such as *Campylobacter* sp, enteropathogenic *Escherichia coli* and *Salmonella* sp can be delivered straight to your door—in raw milk. Tuberculosis and brucellosis from raw milk were major public health problems in the past but have come under excellent control in US dairy herds. However, the recurring outbreaks of *Campylobacter* infection and salmonellosis associated with raw milk consumption in the western United States and elsewhere are disturbing. In early 1981 large outbreaks of *Campylobacter* infection associated with raw milk were reported from Arizona, Kansas and Oregon and outbreaks of *Salmonella* infection were reported from Montana and Washington State.

No type or grade of raw milk including "certified" raw milk is safe from these infections. Salmonellae have been recovered repeatedly from California-produced raw milk, including certified milk, and salmonella outbreaks have occurred in California in association with certified milk. Milk that is "certified" is not certified to be free of pathogens. Rather, certification is a copyrighted designation indicating the milk was produced according to methods and standards specified by the American Association of Medical Milk Commissions, Inc.—methods that have repeatedly failed to prevent contamination with human pathogens.

The most important route by which salmonellae get into milk is through bovine fecal contamination. Yet, salmonellae have been isolated from the udders of cows both with and without mastitis, even when there was no concurrent intestinal infection (as evidenced by positive fecal culture). Thus, milk may become contaminated with salmonellae without exposure to feces or other exogenous sources of contamination.

Salmonella contamination of raw milk may be intermittent and low-grade; and contamination need not be uniformly distributed in a day's production: when the Food and Drug Administration cultured certified raw milk in California in February 1981 in the largest one-day survey to date, they found 20 percent of the containers (4 of 20 half-gallon cartons) produced and bottled by one dairy on the same day to be contaminated with salmonellae.

The route by which *Campylobacter* contaminates milk has not been precisely defined. The probable mechanism is direct fecal contamination since 60 percent of healthy cattle excrete *Campylobacter* in their feces, and *Campylobacter* mastitis has not yet been shown to occur naturally.

Present technology *cannot* prevent or eradicate *Salmonella* and *Campylobacter* infection in milking herds, nor can it prevent contamination of milk produced by such infected cattle. Because occasional fecal contamination occurs during the milking process despite the best efforts of dairies to prevent it, the result is human infection and disease unless milk is pasteurized.

Salmonella and *Campylobacter* diseases in humans are generally not serious but in persons with compromised health (particularly those with malignant conditions and those immunosuppressed by disease or therapy), these infections may be serious. In immunocompromised persons invasive disease with bacteremia, sepsis and widespread dissemination tends to develop; death is not uncommon. Yet "health foods" such as raw milk are sometimes recommended as an adjunct to conventional (and unconventional) therapy for these immunocompromised persons.

Contamination of raw milk has been known since antiquity: a cuneiform tablet from ancient Sumer in lower Mesopotamia written about 5,000 years ago carried the ancient milkers' complaint that if the gods really wanted people to have "clean" milk they would have ". . . placed the udders on the forepart of the cows." But people can have "clean" (safe) milk—through pasteurization. This process not only kills milkborne pathogens that are infective at low doses but also protects consumers from pathogens (infective at only high doses) that could multiply to great numbers if milk contaminated with pathogens were not continuously refrigerated.

Several professional groups, including the *American Academy of Pediatrics,* the *Conference of State and Territorial Epidemiologists,* the *American Veterinary Medical Association* (AVMA), the *US Animal Health Association* and the *National Association of State Public Health Veterinarians* have adopted policy statements that milk and milk products for human consumption be pasteurized. In some 20 states where the sale of raw milk is legal, the AVMA has recommended that raw milk carry a warning label: "Not pasteurized and may contain organisms that cause human disease." Consumers should know the risks involved.

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Current Testing of the Neonate

Mandatory screening of newborns for phenylketonuria (PKU) has been a public health program in all but a few states since the mid-1960's. In recent years more than half the states have expanded this preventive program to include hypothyroid and galactosemia screening.

Such programs function best when they are organized at the state level and include parental and physician education, centralized automated testing, regionalized follow-up services, access to expert diagnostic consultation and specialized referral centers for treatment.

These mass screening programs are intended to assist and supplement the clinical skills and judgments of physicians and not to replace them. It is important to pursue appropriate diagnostic tests immediately whenever history, symptoms or signs raise a suspicion of one of these diseases. Physicians should not wait for mass screening tests to make or rule out the diagnosis because there is the remote possibility of false negatives and there are always more false positives than true cases. As with any laboratory test, judgment must be used in deciding whether to repeat the test where there have been borderline results.

PKU screening has evolved from the semiquantitative microbiological inhibition assay developed by Dr. Robert Guthrie to a precise quantitative automated fluorometric analysis. This permits the selection of cutoff levels to minimize the false positives while still keeping an acceptably low rate of false negatives. The timing of the test has become an important issue because increasing numbers of infants are being discharged earlier than in the past. Prospective and retrospective studies of the screening results of classic cases sampled over the first four days of life support the concept that such testing has an acceptably low rate of missed cases even though slightly higher than later (after the fourth day) testing. Protein ingestion accentuates positive results but is not critical at the cutoff selected (4.3 mg per dl).

Additional screening information has uncovered a variety of hyperphenylalanemic syndromes in addition to classic PKU. These include transient to persistent hyperphenylalanemia with levels below 20 mg per dl, dihydropteridine reductase or biopterin deficiency, and transient PKU with acquired ability to metabolize phenylalanine. Because information on the diagnosis and treatment of these conditions is constantly growing, referral to or consultation with a metabolic center is highly desirable when there are positive results.

Hypothyroid screening is a two-stage process using thyroxine (T_4) as a prescreen. The lowest 5 percent of T_4 results are scheduled for thyroid-stimulating hormone (TSH) analysis. The absolute normal range of serum T_4 varies with an infant's age and can be transiently lowered by stressful conditions such as serious infection or respiratory distress. The 5 percent cutoff, therefore, will include many values that are physiologically normal or explainable by conditions other than hypothyroidism. The TSH analysis is the definitive screening test but by itself is not diagnostic. Most screening programs report even low level elevations of TSH (25 μU per ml) as positive. This might represent ectopic thyroid tissue that produces limited amounts of T_4 and could cease production at any time. Therefore repeat quantitative serum TSH, and, if available, iodine 123 scans are indicated. Hyperthyrotropemia and transient hypothyroidism must also be considered before instituting thyroxine therapy.

The statistically low T_4 levels with normal (less that 25 μU per ml) TSH results have also caused some concern. Most of these occur in premature infants, or indicate benign deficiency of thyroxine binding globulin. Secondary hypothyroidism is very rare (1 case per 100,000 births). Only one case of primary hypothyroidism has been discovered in a group of almost 5,000 infants with these results. Again it is strongly recommended that any questionable screening results be reviewed with a pediatric endocrinologist.

Finally, galactosemia screening has been improved by quantitating and automating the galactose-1-phosphate uridyl transferase assay of Beutler. This has reduced the number of false positives although it will detect some of the low levels seen in variants such as the Duarte-galactosemia mixed heterozygote. Use of a blood galactose screen to resolve some equivocal results without collection of a venous specimen is being evaluated and also has the potential to pick up galactokinase, a clinically significant condition, and 4-epimerase, a benign condition. The safest course when suspicious results are obtained is to switch to a galactose-free formula for the infant and obtain consultation from a metabolic center. It should be remembered that after galactose exposure the urine may contain reducing substances when either transferase or kinase deficiency is present. Eyes should be examined carefully for diffuse metabolic cataracts and liver function should be checked whenever disorder of galactose metabolism is suspected. Because this is an enzyme test for which an infant's red cells are needed, test results may be obscured if a transfusion has been done.

Other hereditary metabolic conditions have been proposed and are being evaluated but have not met all the criteria necessary for inclusion in a statewide mandatory screening program.

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Control of Hepatitis A in Day-Care Centers

Transmission of hepatitis A in day-care centers is an increasingly recognized problem. Outbreaks have been reported in at least 17 states in the past three years. Nationwide, between 9 percent and 12 percent of hepatitis type A or hepatitis type unspecified, is estimated to be related to day-care centers, and in some areas has approached 40 percent.

Three characteristics are common to hepatitis outbreaks related to day-care: (1) hepatitis in children of day-care age is usually asymptomatic; (2) other members in the children's households are often infected as a consequence of spread within a center and generally constitute the majority of recognized cases; and (3) diapered children 2 years or younger are most likely to transmit infection to household contacts; children 4 years and older rarely spread infection beyond the center. Thus, center directors, parents, physicians and public health authorities should recognize that infection in families of children attending the center may indicate asymptomatic spread among children at the center.

Several factors may increase the risk of a hepatitis outbreak at a day-care center: (1) a large center population (more than 20 children), (2) long hours of operation (more than nine hours per day) and (3) presence of diapered children under the age of 2 years. The last factor is the primary one in facilitating transmission of hepatitis A. In one study, after an index case occurred in a child or center employee, 70 percent of those centers enrolling children younger than 2 years had outbreaks; by contrast, 10 percent of the centers enrolling only children aged 2 years or older had outbreaks.

Prevention and control of hepatitis in day-care centers should focus on diapered infants and toddlers 2 years or younger. Maintenance of appropriate hygienic standards, particularly scrupulous handwashing by staff and of young children who cannot adequately wash themselves, must be emphasized. Surfaces on which diapers are changed should be impermeable and should be cleaned and disinfected with an appropriate germicide. The Centers for Disease Control recommend a 1:32 dilution (½ cup per gallon) of household bleach in tap water, prepared daily and dispensed in spray bottles. Accessory items, such as cans of baby powder and jars of vaseline or lotion, should also be disinfected each day, as they can be inadvertently contaminated with feces during a diaper change. Food must not be prepared or served on surfaces where diapers are changed. Health departments should provide periodic inservice training of day-care center staff for the prevention of hepatitis A and other fecally transmitted infections, for example, giardiasis and shigellosis.

Day-care-related outbreaks of hepatitis can be controlled in several ways. First, centers may suspend admission of new children or require them to receive prophylactic immune globulin (formerly called "immune serum globulin" or "gamma globulin") before entering. The efficacy of administering immune globulin to all children and employees at day-care centers in outbreaks is being evaluated. However, it appears that the presence of even one case in a child or employee of a center that has children under the age of 2 is an indication for administering immune globulin to all center children and employees. For six weeks following the last case, any child newly admitted to the center should also receive immune globulin. When several cases are recognized simultaneously in multiple families associated with a single center, administration of immune globulin to household contacts of children 3 years or younger also should be considered. In those centers having only children older than 2 years of age, spread is less likely after an index infection, and immune globulin usually is indicated only for center staff, age-group contacts at the center and for household contacts of the infected child.

Second, outbreaks can be further controlled by preventing the spread of disease to other centers. Centers where infection has occurred should not be closed and parents should be urged not to transfer their children—and thus, infection—to other centers.

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Medical Problems in Homosexual Men

Some urban areas have large numbers of homosexual residents and several infectious diseases are reportedly much higher among these special groups than in the overall urban population. As a group, homosexual men tend to be more sexually active with multiple partners than their heterosexual peers. This greater degree of sexual activity is reflected in a higher incidence rate of sexually transmitted diseases, such as syphilis, gonorrhea, nongonorrheal urethritis, herpes and acuminate warts. Asymptomatic carriers of rectal gonorrhea and rectal herpes are an important reservoir of infection.

Following syphilis and gonorrhea, shigellosis, amebiasis, giardiasis and hepatitis A are the most frequently reported infectious diseases among homosexual men. Formerly, it was believed that these infections were usually transmitted by ingestion of fecally contaminated food or water. Epidemiologic study now suggests that multiple sexual contacts of oral-anal and orogenital character are a major means of transmitting these enteric infections. While these modes of sexual interplay are not exclusively homosexual practices, the incidence rates of these enteric diseases reported among men 20 to 40 years old are six to ten times greater than those reported in women or men in any other age groups, and 60 percent to 70 percent of these reported patients are homosexual men. A small, unmeasurable percentage of patients with enteric infection remain asymptomatic carriers of the pathogens after recovery.

Special precautions are required to protect the public from infection transmitted by the 5 percent to 10 percent of patients with enteric disease who work as food handlers, bartenders, attendants in medical care facilities, and as teachers and aides in day-care centers for infants and young children.

Hepatitis B is also endemic, as shown by an almost 70 percent carrier rate of the antibody in selected groups of homosexual men. The infection may be transmitted by infected serum from minor abrasions into small breaks in anal or rectal mucosa. Saliva and semen also carry the hepatitis B antigen.

A new entity has just been added to the catalogue of medical conditions listed above. As of November 1981 more than 100 cases of *Pneumocystis carinii* pneumonia and Kaposi sarcomatosis were already known, having developed in various combinations in young homosexual men in United States cities on both coasts. Of the cases 24 were then known in the San Francisco Bay Area (eight of the patients had died) and more were reported from the Los Angeles area. Kaposi sarcoma and *Pneumocystis* pneumonia were proving rapidly fatal to some patients in this presumably fairly healthy population. In contrast, the malignant condition was formerly reported as taking a rather indolent course in very elderly persons in Africa, or as developing in patients elsewhere who were receiving immunosuppressive therapy for other medical conditions. Units from the Centers for Disease Control are cooperating in epidemiologic studies with local public health departments and private physicians. Suspected interrelationship—possibly on a genetic level—of Epstein-Barr virus, cytomegalovirus and perhaps some local peculiarities of the male homosexual life-style make this problem the epidemiologic challenge of the year.

Special surgical problems among homosexual men may include anal or rectal abrasions, ulcers or fissures; surgical emergencies due to rectal perforations or impaction of foreign bodies; and internal acuminate warts. Surgeons may also need to differentiate (before surgical intervention) between rectal carcinoma and infections in either traumatic, amebic or herpetic ulcerations of the rectal mucosa.

Physicians should be aware that patients with emotional problems related to their homosexuality may conceal their life-style and thereby give a misleading history of their medical problems. Physicians also should be aware of possible subconscious hostility toward male homosexuality, which may impede effective diagnosis and treatment of patients' medical problems.

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Inequitable Payments for Physicians' Cognitive Services: Are Reimbursement Structures Solely to Blame?

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ABSTRACT—Organizations such as the American Society of Internal Medicine and the American Academy of Family Physicians contend that third party payments for cognitive services are inadequate. These groups argue that the reimbursement structures employed by insurers create disparities in payments between cognitive and procedural services. Third party payors generally believe that their reimbursement systems equitably reimburse physicians for cognitive services.

One recent study suggests that differences in levels of reimbursement between procedural and cognitive services may result from physicians miscoding and misvaluing their services. Medicare data suggests that the range of fees for different primary care physicians for some services may provide for the reimbursement of cognitive functions.

A means of equitably quantifying the values of cognitive services would have to be established subsequent to a change in traditional third party reimbursement. Increased payments for cognitive services would have to be accompanied by decreased use of procedural services in order to ensure cost savings. The global fee approach may be an alternative solution to this issue.

The issue of reimbursement for physicians' cognitive or "thinking" functions has become the focus of recent attention. Much of this has emanated from a recent paper entitled "Reimbursement for Physicians' Cognitive and Procedural Services" published by the American Society of Internal Medicine (ASIM).[1] The ASIM paper, which has been endorsed by the American Academy of Family Physicians, argues that the reimbursement formulae utilized by third party payors create significant disparities in payments between "procedural" and "cognitive" services. ASIM concludes that if reimbursement was increased for cognitive services, it would reduce the income differentials between "procedural and non-procedural" specialists, encourage more physicians to enter primary care specialties, produce health care cost savings, increase health care productivity and improve patient/physician relationships.[2]

Whether changes in third party reimbursement structures alone would ensure fair payments for cognitive services and bring about the results predicted by ASIM is subject to conjecture.

The Status Quo

Third party payors reimburse for services that are covered under the terms of contracts purchased by employers and individuals or mandated by government. The predictability and stability of professional reimbursement are fundamental to an insurer's successful delivery of its programs and the accessibility of care to the public. Differences in fees and payments among specialists and individual physicians, and for types of services cannot be attributed solely to third party reimbursement formulae. In explaining such differences, supply and demand determinants, which result in a fee being established for a particular service, must be identified for the role they play in the cost equation. Professional fees are influenced by the utility or value of services as perceived by physicians and patients. Factors such as risk, skill, experience, training, procedural difficulty, overhead, education, etc. usually are considered by physicians in valuing their services.

For the past few years, the preferred method of physician reimbursement has been paid-in-full concepts such as the usual, customary and reasonable (UCR) system. The UCR concept is based on physicians' charges. UCR allowances are calculated by determining the fee which a physician most often charges the majority of his or her patients for similar services. Although the UCR system has some deficiencies, it does allow for the private negotiation of fees between physicians and patients.

Clearly, income differentials exist between procedural and cognitive-oriented specialists. Procedural-oriented specialties often demand a longer period of professional training and correspondingly have been characterized by higher average annual incomes. This is very evident when the average incomes of surgical and non-surgical specialists are compared. It also occurs, however, among non-surgical specialists where, for example, in 1979, cardiologists ($96,360) and neurologists ($75,860) generally earned more than primary care specialists such as family physicians ($67,820), internists ($75,230) and pediatricians

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($61,070).[3]

Income differentials can be explained partially as a function of the number of hours physicians practice per week. Some would argue that the income disparities between procedural and cognitive-oriented specialists are unjustified because the latter generally treat more patients per day. However, according to the Profile of Medical Practice, the American Medical Association (1981), the number of hours practiced per week in 1980 by surgeons, internists and general practitioners, for example, was 52.0, 52.2 and 48.2 hours respectively.[4] It appears that no significant differences can be found.

Differences in levels of reimbursement extend to procedural and cognitive services. The AMA's CPT-IV coding nomenclature offers a partial solution to this problem by recognizing levels of care. Many third party payors utilize this coding system. However, the use of CPT-IV does not guarantee equity. One Blue Shield Plan studied the charges and allowances for office, home and hospital medical services. The study revealed significant inconsistencies in the charges submitted by physicians for various levels of care. (See the examples of 1981 Blue Shield UCR charge data in Tables 1, 2 and 3.) Table 1 indicates that physicians are charging similarly for initial brief and intermediate hospital medical visits. Consequently, the UCR allowances are identical for CPT codes 90200 and 90215. For subsequent hospital medical services, physicians are charging more for a brief medical visit (CPT 90240) than for a limited medical visit (CPT 90250) and more for an extended medical visit (CPT 90270) than for a comprehensive medical visit (CPT 90280). For concurrent hospital medical care, physicians are charging more for an extended visit (CPT 90270) than for a comprehensive visit (CPT 90280). Other incongruities can be noted in Tables 1, 2 and 3.

Table 1

HOSPITAL MEDICAL SERVICES
(NEW AND ESTABLISHED PATIENT)

CPT Codes	*Level of Care*	*Type Service*	*UCR Allowance*
	(Initial)		
90200	Brief	Medical	$75.00
90215	Intermediate	Medical	$75.00
90220	Comprehensive	Medical	$94.00
	(Subsequent)		
90240	Brief	Medical	$28.00
90250	Limited	Medical	$20.00
90260	Intermediate	Medical	$35.00
90270	Extended	Medical	$60.00
90280	Comprehensive	Medical	$50.00
90240	Brief	Concurrent Care	$20.00
90250	Limited	Concurrent Care	$25.00
90260	Intermediate	Concurrent Care	$30.00
90270	Extended	Concurrent Care	$50.00
90280	Comprehensive	Concurrent Care	$35.00
90240	Brief	Psychiatric	$20.00
90250	Limited	Psychiatric	$25.00
90260	Intermediate	Psychiatric	$35.00
90270	Extended	Psychiatric	$25.00
90280	Comprehensive	Psychiatric	$30.00

The Blue Shield Plan has concluded that physicians frequently miscode and possibly misvalue their medical services, thereby contributing to the variable valuation of some cognitive services. Perhaps some physicians are unaware of the proper levels of care to bill. If this is so, it would appear that the establishment of some standards are in order for clarification and consistency.

There are other data which suggest that third party reimbursement for some cognitive services may take into account physicians' cognitive efforts. An examination of average primary care physician fees for an initial office visit, a follow-up office visit, a follow-up hospital visit and a routine examination, as reported by the AMA, suggests that differences in payments to nonsurgical specialists for similar cognitive services may occur.[5] For example, the 1980 average fees of internists ($40.18 and $50.77) were greater than those of obstetricians/gynecologists ($34.03 and $28.00), pediatricians ($22.15 and $21.28) and general practitioners ($20.43 and $35.79) for an initial office visit and an annual examination. The average fees of internists ($20.46 and $27.93) exceeded those of pediatricians ($16.40 and $22.61) and general practitioners ($15.18 and $21.84) for a follow-up office visit and a follow-up hospital visit. Assuming that internists treat less patients per day and render more cognitive

Table 2

OFFICE MEDICAL SERVICES

CPT Code	*Level of Care*	*Type Service*	*UCR Allowance*
	(New Patient)		
90000	Brief	Medical Emergency	$25.00
90010	Limited	Medical Emergency	$25.00
90015	Intermediate	Medical Emergency	$25.00
90017	Extended	Medical Emergency	$56.00
90020	Comprehensive	Medical Emergency	$55.00
	(Established Patient)		
90030	Minimal	Medical Emergency	$15.00
90040	Brief	Medical Emergency	$22.00
90050	Limited	Medical Emergency	$23.50
90060	Intermediate	Medical Emergency	$22.00
90070	Extended	Medical Emergency	$30.00
90080	Comprehensive	Medical Emergency	$40.00

Table 3

HOME MEDICAL SERVICES

CPT Code	*Level of Care*	*Type Service*	*UCR Allowance*
	(Established Patient)		
90130	Minimal	Medical	$20.00
90140	Brief	Medical	$26.25
90150	Limited	Medical	$26.25
90160	Intermediate	Medical	$26.25
90170	Extended	Medical	$28.00
90130	Minimal	Psychiatric	$10.50
90140	Brief	Psychiatric	$26.25
90150	Limited	Psychiatric	$26.25
90160	Intermediate	Psychiatric	$26.25
90170	Extended	Psychiatric	$26.25

services than most primary care practitioners, it would appear that they are being compensated for their cognitive skills. This point is further illustrated in Tables 4, 5 and 6 which show a sample of 1981 Medicare maximum customary fees by specialty and charge class (economic area) for three cognitive services. Table 4 indicates that the customary fees of internists and cardiologists exceed those of surgeons, pediatricians, general practitioners, obstetricians/gynecologists and family practitioners for a comprehensive consultation. Tables 5 and 6 likewise compare customary fees for an intermediate hospital visit and an intermediate office visit. The customary fees of surgeons have been omitted from Tables 5 and 6 because their fees for these procedures often are included as part of the total surgical charge. The range of fees given in Tables 4, 5 and 6 again suggests that at least some reimbursement structures may provide for cognitive services.

Table 4

1981 MEDICARE CUSTOMARY FEES
FOR COMPREHENSIVE CONSULTATION

Specialist	*Charge Class*			
	I	*II*	*III*	*IV*
Surgeons	$80.00	$75.00	$71.60	$60.00
General Practitioners	50.00	50.00	53.70	50.00
Internists	89.50	80.00	71.60	65.00
Obstetricians/ Gynecologists	62.60	62.60	53.70	53.70
Family Practitioners	50.00	60.00	60.00	60.00
Cardiologists	89.50	80.00	75.00	65.00

Note: A comprehensive consultation is defined as a medical or surgical consultation requiring comprehensive history and physical examination.

Source: Blue Shield of Pennsylvania

Table 5

1981 MEDICARE CUSTOMARY FEES
FOR INTERMEDIATE HOSPITAL VISIT
(STANDARD VISIT)

Specialist	*Charge Class*			
	I	*II*	*III*	*IV*
General Practitioners	$25.00	$17.90	$17.90	$15.00
Internists	29.00	25.00	25.00	20.00
Pediatricians	26.80	25.00	17.90	17.00
Obstetricians/ Gynecologists	35.00	26.80	25.00	25.00
Family Practitioners	20.00	20.00	20.00	20.00
Cardiologists	27.00	25.00	17.90	20.00

Note: An intermediate hospital visit is defined as a hospital visit, new or established patient, brief examination, evaluation and/or treatment.

Source: Blue Shield of Pennsylvania

Table 6

1981 MEDICARE CUSTOMARY FEES
FOR INTERMEDIATE OFFICE VISIT
(STANDARD VISIT)

Specialist	*Charge Class*			
	I	*II*	*III*	*IV*
General Practitioners	$16.00	$16.00	$15.00	$14.00
Internists	25.00	22.00	20.00	17.90
Pediatricians	16.00	16.00	17.90	16.00
Obstetricians/ Gynecologists	26.80	25.00	23.00	15.00
Family Practitioners	17.00	18.00	15.00	15.00
Cardiologists	25.00	25.00	18.00	15.00

Note: An intermediate office visit is defined as an office visit, standard examination, evaluation or treatment.

Source: Blue Shield of Pennsylvania

Conclusions

Both cognitive and procedural skills generally are necessary in the provision of quality patient care. The reimbursement levels for some cognitive services may be undervalued.

However, an acceptable system of quantifying the values of many cognitive services does not exist because an equitable base upon which to calculate these reimbursement levels has not been established. For example, a reimbursement system for cognitive services based on time, experience or knowledge probably could not be administered effectively by third party payors. In addition, intuitive skills are subject to variation among physicians and are dependent upon the nature of the problem, specialization, skill, experience, knowledge, etc. An alternative solution would be to base such a reimbursement system on the global fee approach. This approach, however, is not without its conceptual problems. Obviously, it would require physicians to consider fees and payments in terms of episodes of care.

Proposals to effectively increase payments for cognitive services by modifying the reimbursement formulae employed by third party payors will have to consider, among other factors, the effects of such changes on the cost, accessibility, delivery and quality of care. A reduction in health care costs would occur only if increases in reimbursement for cognitive services are accompanied by corresponding decreases in the routine ordering of procedural services. Thus, many cognitive-oriented specialists must be willing to alter their traditional patterns of practice.

A further consideration is that the purchasers of health insurance must be willing to accept variations in traditional benefits. Presently, many purchasers appear unwilling to accept such changes.

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NOTE: The views expressed herein are those of the author and do not necessarily reflect the views of the Blue Cross and Blue Shield Associations or any of their Plans.

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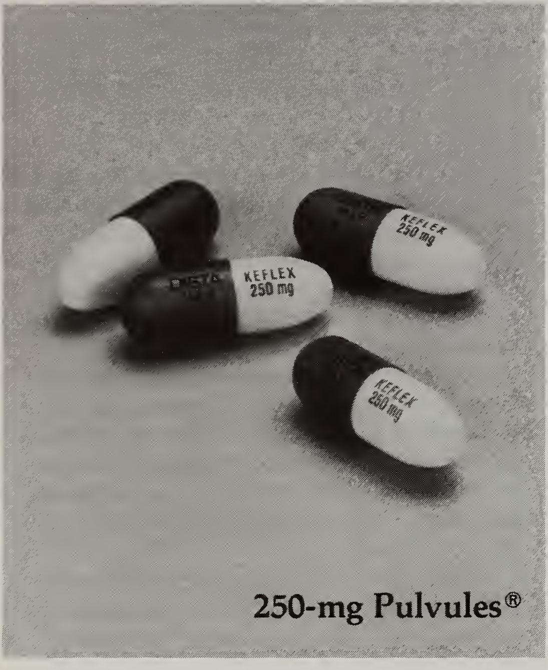

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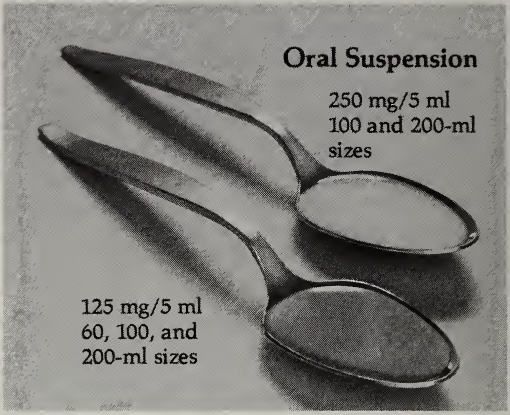

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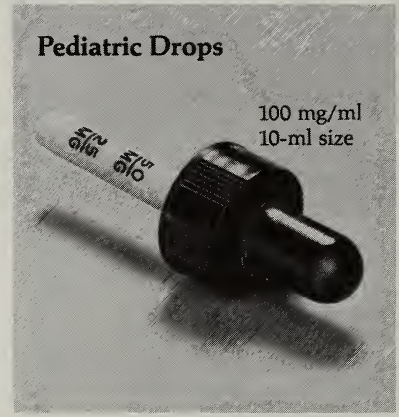

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Hospital Medical Staff Privileges and Antitrust: An Overview

CARL WEISSBURG AND J. MARK WAXMAN

As the physician population peaks and the number of hospitals remains constant, or possibly decreases, hospitals and their medical staffs may seek to limit physicians' access to their facilities.

In the past, this has been typically accomplished by closing the medical staff, awarding exclusive contracts to operate certain hospital departments or establishing non-quality criteria for staff admissions. Such actions, however, potentially limit competition and restrain trade in violation of antitrust laws.

This article addresses the antitrust issues which arise when a decision is made to limit physician access by the use of the methods just described.

The Closed Staff

No reported appellate court decision has specifically determined whether closing a medical staff to additional physicians violates federal antitrust laws. Any prediction at this time must be based upon an analysis of whether the closure of a medical staff is reasonable and, as a result, valid under the "rule of reason" test.[1]

Three cases, decided by the New Jersey courts, provide some indication of those factors which may lead a court to conclude that a moratorium on staff appointments is unreasonable and, therefore, violative of antitrust prohibitions.

In *Davis v. Morristown Memorial Hospital,*[2] a New Jersey court reviewed the denial of initial staff appointments to two obstetricians, based upon a moratorium policy which resulted from an excessive occupancy in the maternity unit.[3]

The plaintiffs suggested that the appropriate way to limit occupancy in the maternity unit was to maintain an open staff of qualified obstetricians who would be notified when occupancy reached an unmanageable level and then advised to admit their patients elsewhere. After an extensive review of the evidence regarding the effect on patients, administration and medical staff, the court rejected this solution in favor of the moratorium.[4]

In reaching its conclusion, the court noted that (1) last minute admissions to other hospitals (as high occupancies became known) might have a deleterious effect on patients resulting from the potential that a single practitioner might be required to administer to patients at hospitals some distance apart, and (2) obstetricians tended to work with certain pediatricians and other specialists who might not be available at each hospital.

The court, however, did not approve an open-ended moratorium and warned that, as soon as additional obstetrical beds became available, occupancy was reduced to manageable proportions or there were staff vacancies, the failure to admit qualified physicians would not be sanctioned.

This decision was followed by the New Jersey Supreme Court's decision in *Guerro v. Burlington County Memorial Hospital.*[5] In this matter, applications to practice general surgery were denied because the facility was operating at near capacity, and the board of trustees believed it was not in the best interests of the community to admit new surgeons to the staff who would be likely to perform additional surgeries, thereby further straining the resources of the facility.

The court sustained the board's action because it was motivated by a desire to maintain quality patient care, which the board felt would deteriorate if the facility was "overtaxed by additional surgical cases." The court stated, however, that privileges could not routinely be denied to physicians moving into the area, and any denial motivated by a desire to exclude

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(The information reported in this article is not intended to be legal advice and should not be used to resolve legal problems. For legal advice, a health care institution should consult its attorney.)

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newcomers and protect the existing staff would not be tolerated.

In *Walsky v. Pascack Valley Hospital,*[6] a New Jersey court again reviewed the reasonableness of a moratorium on staff admissions adopted by a hospital board following a consideration of the effect of the moratorium on (1) the surrounding community, (2) the "interest of the medical profession," and (3) "the economic implications to the hospital and the physicians presently on the medical staff as well as those physicians who would be excluded from staff appointments."

The moratorium applied to all new applicants except where "limited subspecialties" were needed or where an applicant had no other hospital affiliation to provide for his patients. In addition, new applicants who were accepted were required to sign a statement agreeing that they would not accept appointment to any other hospital medical staff in the area.

After reviewing the evidence, the court found that, despite the hospital's high occupancy, there was no decline in occupancy after imposition of the moratorium, notwithstanding an increase in the number of beds which followed the granting of the Certificate-of-Need (CON).

The court stated that receipt of a CON for expansion reduced the possibility for expansion at other hospitals in that region and, therefore, directly affected the ability of physicians to satisfy the needs of their patients at other hospitals where they were on the staff. Finally, the court concluded that there was no evidence that the moratorium would alleviate high occupancy or had a particular effect on the ability to deliver quality health care.

The court noted:

"The moratorium was an irrational means to accomplish an otherwise acceptable objective. Experience has shown that, in terms of the quality of patient care, 100 percent occupancy is 100 percent, regardless of the number of physicians on the staff, and the only significant effect of continuing the closure of staff appointments is to confine control of the institution's beds to its existing medical staff and to enhance their economic interests at the expense of other qualified physicians whose patients are thereby excluded . . .

"If there were any credible evidence that the continuation of the moratorium contributed or was related to the quality of patient care . . . this court would be both obliged and eager to sustain it . . ."[7]

While the foregoing cases may not be uniformly consistent, they do indicate that courts will carefully scrutinize any record established by a hospital to justify closure of its staff. Where that record does not clearly indicate that closure is directly related to patient care and the quality of medical practice, courts may be unwilling to condone closure or a moratorium.[8] Those staff closures found to be unreasonable may then become the basis for antitrust litigation instituted by the excluded physicians.

Exclusive Contracts

A number of cases have been decided in which exclusive contracts or closed departments have been challenged as being violative of state and federal antitrust laws as well as common law prohibitions against interference with contractual relationships and restraint of trade.

When a hospital decides to operate a particular department through the use of an exclusive contract, and it justifies its decision as necessary to maintain quality patient care, reduce costs and facilitate administration of the hospital, the decision has generally been upheld.[9]

Representative of such cases is the recent decision by a federal district court in *Smith v. Northen Michigan Hospitals, Inc.*[10] Here, physicians contested the awarding of an exclusive contract for the provision of emergency room services which followed a consolidation of emergency rooms after two hospitals merged.

Prior to the merger, the plaintiff physicians staffed, on a part-time basis, the emergency room of one of the two facilities while continuing their private practice. The record made before the trial court revealed: (1) a legitimate medical and financial purpose to consolidate the emergency rooms; (2) criteria had been developed for the operation of the emergency room based on the desire to provide efficient medical care, and (3) the award of the exclusive contract did not stem from any ill will toward the excluded physicians.

In so holding, the court stated:

"It cannot seriously be argued that full-time specialists trained in emergency room techniques cannot provide a superior service to the public than generalists who rotate on a part-time basis while conducting their private practice no matter what the other qualifications plaintiffs may have. An exclusive contract permits more control over standards, personnel and procedures. Considering the potential legal liability that (the hospital) might incur through the operation of its emergency room, the desire to have a small group of well-trained physicians on a full-time basis is understandable."

The exclusive contract under review was, therefore, held reasonable and not violative of antitrust prohibitions.[11]

A similar result was reached in *Dattilo v. Tucson General Hospital.*[12] In *Dattilo,* several physicians challenged an exclusive contract for the provision of nuclear medical services at the only osteopathic hospital in Tucson, Arizona.

The testimony at the trial indicated that it was common practice for hospitals to grant exclusive contracts in pathology, radiology and nuclear medicine, and such contracts were needed for the control and standardization of procedures as well as for the efficient operation of the particular department.

The practice was further justified on the grounds that it: (1) gave the hospital board greater ability to monitor the department to insure that standards were being maintained; (2) achieved improved patient care because of better scheduling; (3) provided consistency in the training of technicians; (4) allowed doctors to maintain proficiency, and (5) created a department with one responsible person, thus insuring control and standardization of procedures, all for the benefit of patients. It was further noted that the exclusive contract did not interfere with the patient's selection of his own primary physician. For these reasons, the court found that the contract was necessary for proper patient care and did not unreasonably interfere with the excluded physicians' practice of medicine.

Lewin v. St. Joseph Hospital of Orange,[13] is also a representative case.

In *Lewin,* a California Court of Appeal sustained the operation of a chronic renal hemodialysis department on a closed staff basis. In its opinion, the court noted that the operation of the unit on a closed basis rather than an open staff was desirable, both from the standpoint of hospital administration and patient care.

The court stated that operation by a closed staff facilitated the administration of the unit, supervision and training of nurses and other personnel and enhanced rapport between physicians and other operating personnel. Furthermore, operation of the unit by a closed staff assured the immediate availability of a nephrologist, simplified and permitted more flexibility in scheduling and was more economical—all of which permitted services to be rendered to patients at a lower cost than could be provided with an open staff operation.

The court found, therefore, that operation of the dialysis unit on a "closed staff" basis was "substantively rational and not arbitrary, capricious or entirely without evidentiary support."

The foregoing decisions, reviewing challenges based on federal antitrust laws or common law theories indicate those factors which could lead a court to find a decision to close a department "reasonable" in the antitrust context. They uniformly hold that, if a hospital can justify its decision based on evidence that its action will provide better medical care, courts will be reluctant to strike down the practice involved.[14]

Open Staff Criteria

As conditions of admission to their staff, hospitals usually establish a number of training or quality-related criteria that a practitioner must satisfy. Hospitals also may impose non-quality of non-practice-related criteria. While a full discussion of the various criteria is beyond the scope of this article, several cases typify the antitrust challenges that have arisen in these situations.

As a result of the increase in malpractice litigation, and the role courts have required hospitals to play in policing their medical staffs, many hospitals now mandate that physicians carry malpractice insurance as a condition of admission to or maintenance of staff status. Courts considering such a requirement in the antitrust context have found that it does not restrain trade or unreasonably interfere with competition.

While a court might reach a different conclusion if a hospital required all physicians on its staff to obtain their insurance from a specific company, the requirement that a physician have malpractice insurance does not, itself, constitute an unlawful restraint of trade.[15]

Hospitals also have attempted to make certification by a particular local medical society a condition of staff membership. Although no case has dealt with such a requirement in the antitrust context, courts that have reviewed such a requirement have determined that it is arbitrary, capricious and beyond the jurisdiction of the hospital governing body.

These requirements, when considered in the antitrust context, may be construed as a concerted "refusal to deal" by the medical staff and hospital governing body that approves such a requirement and, therefore, render it violative of the antitrust laws.[16]

Litigation also has been instituted by physicians and government enforcement agencies over the exclusion of physicians associated with prepaid group practice plans.[17] Representative of this practice was the action of the Forbes Health System, a two-hospital consortium in Pittsburgh, Pennsylvania, which was found to be delaying and denying attempts by otherwise qualified HMO physicians to gain staff admission. Ultimately, a consent agreement was reached, which established specific time limits for reviewing medical staff applications of HMO physicians.[18]

Some Concluding Thoughts

The general trend of judicial decisions is to support actions by hospitals and their medical staffs which limit admissions based upon (1) a thorough consideration of the effect of such a limitation on the quality of patient care to be rendered at the hospital, and (2) a finding by the governing body that the contemplated action will promote better patient care.

Determinations to limit staff access which are not the product of such an in-depth review will be subject to close judicial scrutiny—and may well be found to be unreasonable. Where such an action is found to be unreasonable, those participating in its enactment may be subject to claims for damages, based on antitrust theories, by excluded physicians.

REFERENCES

1. It may be argued that a decision to close a medical staff or a department is a group boycott and, therefore, a "per se" violation, rather than a practice which must be reviewed under the "rule of reason" test. Recent cases, however, have raised an issue as to whether the *per se* rules apply to the health care setting or to professional conduct. *See e.g., Arizona v. Mari-*

copa County Medical Society, CCH Tr. Reg. Rptr. 1981-1 Trade Cases, ¶ 63,239, *modified* at ¶ 63,573 (9th Cir. 1980), *cert. granted,* March 9, 1981 (Docket No. 80-419); *Manasen v. Calif. Dental Service.* CCH Tr. Reg. Rptr. ¶ 63,959 N.D. Cal. 1980

A full discussion of the issue of whether *per se* rules are applicable to hospital staff decisions is beyond the scope of this article. The United States Supreme Court's decision in *Maricopa County, supra,* probably to be decided in its next term, will also affect that discussion. For the sake of this article, however, it is assumed that the analysis to be applied is the "rule of reason."

See generally C. Weissburg and J.M. Waxman, "Removal of Traditional Barriers Exposes Health Care Industry to Antitrust Barrage," FAH Review, May/June 1981, hereinafter referred to as "Antitrust Introduction;" *see also* M. Pollard and R. Leibenluft, "Antitrust and the Health Professions, Policy Planning Issues Paper" published July 1981 by the Office of Policy Planning of the Federal Trade Commission, p. 24-46.

2. 106 N J Super 33, 1969

3. The hospital's policy was as follows:

   Until an adequate number of medical-surgical, OBS-GYN, and psychiatric beds can be provided, doctors who newly apply for appointment . . . and would be admitting patients to any of these beds will be informed that action on their applications must be deferred, except for such doctors as may qualify under one or more of the following criteria:

   (1) In setting up practice in a community that is within the hospital primary service area and urgently needs such a physician.
   (2) Provides specialized professional skills that will substantially improve a service of the hospital.
   (3) Requests, and qualifies for, a temporary appointment.

   Plaintiffs in the litigation apparently did not qualify under any of the criteria.

4. In so holding, the court also rejected plaintiffs' alternative of a geographical limitation on obstetrical admissions. The conclusion, reached without discussion, was that there was no legal basis on which a court could impose such a limitation.

5. 70 N J 344, 1976

6. 145 N J Super 393, 1976

7. id, at p 410-411

8. In an unreported decision, *Hayden v. Stanford University Hospital,* Case No. P 32039 (Superior Court, Santa Clara County, California, Memorandum of Intended decision, July 8, 1977) a California Superior Court considered whether a teaching hospital could close its staff to nonfaculty members. While the court ruled that the physician in question had a right to be admitted to the hospital's staff because its bylaws did not comply with procedural due process requirements, the court mentioned several of the factors that it might consider were it necessary to address, directly, the closed staff issue. The court stated that teaching hospitals "in some reasonable degree" had the responsibility for serving their community, and the right did not exist "absolutely" to close the hospital staff where community physicians had no access to other hospital beds in the area. The court inferred that some balancing would be required; however, since no valid reason for a closed staff had been presented, a ruling on the issue was unnecessary.

9. *E.g. Smith v. Northern Michigan Hospitals, Inc.,* CCH Tr. Reg. Rptr. ¶ 64,181, p. 73 625 (W.D. Mich. 1981) (Emergency Room). *Hyde v. Jefferson Parish Hospital District No. 2,* 1981-1 Trade Cases. ¶ 63,932 (E.D. LA. 1981) (Anesthesiology). *See also Margolin v. Morton F. Plant Hospital Association, Inc.,*342 S.2d 1090 (Fla. App. 1977) (Anesthesiology); *R. Harron v. United Hospital Center, Inc.,* 522 F.2d 1133 (4 Cir. 1975) *cert. den.* 424 U.S. 916 (1976) (Radiology); *Moles v. White,* 336 S.2d 447 (Fla. App.1976) (Cardiac Surgery); *Sokol v. University Hospital, Inc.,* 402 F. Supp. 1029 (D. Mass. 1975) (Cardiac Surgery); *Blank v. Palo Alto—Stanford Hospital Center,* 234 Cal. App. 2d 377, 44 Cal. Rptr. 572 (1965) (Radiology); *Benell v. City of Virginia,* 258 Minn. 559, 104 N.W. 2d 633 (1960) (Radiology); *Letsch v. Northen San Diego County Hospital District,* 246 Cal. App. 2d 673, 55 Cal. Rptr. 118 (1966) (Radiology); *Adler v. Montefiore Hospital Association,* 453 Pa. 60,311 Atlantic 2d 634 (1973) *cert. den.* 414 U.S. 1131 (1974) (Cardiology Laboratory); *Powsner v. St. Joseph Mercy Hospital of Detroit,* Case No. 77-5279 (Mich. Cir. Ct.,[Washtenaw County] Dec. 1, 1977) (State Antitrust Law; Cardiac Catheterization); *Centeno v. Roseville Community Hospital,* 107 Cal. App. 3d 62 (1979) (Radiology); *Rush v. City of St. Petersburg,* 205 S. 2d 11 (Fla. App. 1968) (Radiology); *Douglas v. Hospital of St. Raphael,* 33 Conn. Sup. 216, 371 Atlantic 2d 396 (1976) (Anaesthesiology); *Balhuizen v. North Kansas City Memorial Hospital,* 582 F. 2d 1287 (8 Cir. 1978) *(unpublished opinion) (Pulmonary Laboratory); Robinson v. Magovern,* Civil Action No. 77-75, decided August 31, 1981, (W.D. Pa. 1981) (Surgery).

   In *Robinson v. Magovern, supra,* a federal district court, in a 193 page opinion, upheld the denial of staff privileges to a thoracic surgeon, in part, based upon the hospital's "competitive strategy," and a finding by the hospital's governing board that the plaintiff would not assist the hospital in pursuing that strategy because he had received staff appointments at seven other hospitals.

10. *Smith v. Northern Michigan Hospitals, Inc., supra*

11. In *Smith v. Northern Michigan Hospitals, Inc., supra,* plaintiffs also challenged the hospital policy of referring patients in the emergency room to specialists rather than general or family practitioners. The court rejected plaintiff's challenge holding that whether it was preferable for a child to be treated by a family practitioner as opposed to a specialist was "primarily the philosophical decision of the treating physician and the patient's family not the court's." Where plaintiffs could only show disappointment in the fact that they did not obtain what they believed to be their "fair share" of hospital referrals, and given the reasonable premise that pediatricians who specialize in unique aspects of children's diseases are better equipped to treat children than those who have not, the court would not find that such a practice resulted in an illegal restraint of trade.

12. 23 Ariz App 392, 533 P 2d 700, 1975

13. 82 Cal App 3d 368, 146 Cal Rptr 892, 1978

14. The decisions reviewing exclusive contracts and closed departments have been based solely on whether the concept of a closed department is reasonable. The cases have not reviewed the specific terms involved in a closed department or exclusive contract relationship. A court in the future might not consider it reasonable, for example, if the evidence revealed a 25-year contract with a particular nephrology group to operate a dialysis unit at whatever charge the group might desire to establish. Such an arrangement may be viewed as being unreasonable in spite of the fact that it might have a positive influence on staff and patient care.

15. *E.G. Pollock v. Methodist Hospital,* 392 F. Supp. 393 (E.D. La. 1975); *see also Holmes v. Hoemako Hospital,* 573 P. 2d 477 Ariz. 1978

16. *E.g. Armstrong v. Board of Directors of Fayette County General Hospital,* 553 S.W. 2d. 77 Tenn. 1976

17. *American Medical Association v. United States,* 317 U.S. 519 (1943) (a conspiracy to restrain prepaid group practice physicians from medical society membership and staff privileges violates the antitrust laws); *United States v. Halifax Hospital Medical Center;* Case No. 78-554-ORL-CIV.-Y (March 5, 1980) reported in [1980] 5 Trade Reg. Reporter (CCH ¶ 50,748); *see also* Forbes Health System Medical Staff. 44 Fed. Reg. 37, 957, 1979

18. One issue which may reach the courts in the future is the potential antitrust exposure for an HMO restricting its operations to services provided by members of its closed panel.

Family Practice Faculty and Practitioner Assessments of CME Needs

JANET ROSEMAN LESSNER, PH. D. AND CHARLES E. DRISCOLL, M.D.

Continuing Medical Education is coming under increasing scrutiny because of its relative lack of demonstrated effectiveness in improving physician performance. Observers cite several reasons why performance gains are not achieved: 1) inadequate teaching/motivation techniques,[1] 2) inadequate evaluation methodologies,[2] and/or 3) inappropriate topic selection by faculties who are remote from the practitioners' base of operation.[3] The present paper addresses itself to the last criticism.

The purpose of the study was twofold: 1) to assess the "ivory tower effect"; that is, to see whether faculties are in touch with practitioners' learning wants/needs; and 2) to serve as a basis for future CME planning by assessing the relative importance of a number of topics to physician learners and medical faculties.

Method

Practicing family physicians and family practice faculties were asked to complete a needs assessment survey. They were instructed to imagine that they were continuing education course directors charged with the responsibility for selecting 30 out of 100 topics for a three-day course for practicing family physicians. They were asked to rank order their choices from most to least important and were told to ignore issues of variety and sequence of topics. They were to assume that all topics would be presented in a lecture format and would be taught with uniformly high quality.

The list of 100 topics was generated from the following sources: program brochures from recent refresher-type courses for family physicians; topics suggested for future meetings by participants of family practice conferences; faculty suggestions for topics of interest/need; and topics receiving attention in recent family practice journals and year books.

Twenty-six of the 175 participants at a recent family practice refresher course at the University of Iowa volunteered to participate in the study. An additional 38 family physicians responded when the survey was mailed to 200 members of the Iowa Academy of Family Physicians. The low response rate was attributed to the length of time required (one hour) to complete the questionnaire. A total of 64 practicing physicians participated in the study. The survey was also mailed to university-based departments of family practice and to 243 full-time faculty of community-based residency training programs in Iowa and surrounding states. A total of 76 faculty completed and returned the survey.

Results

Mean scores for each topic were determined for the two groups. A score of 30 = highest and implies the respondents felt this topic was very necessary, 1 = lowest implying little importance was attached to the topic, and 0 = not chosen. Mean scores ranged from 0.61 to 12.86. These scores are relatively low since participants rated only 30 out of 100 topics, and all non-rated topics were automatically scored 0. Mean scores would have been considerably higher had the questionnaire asked for the rating of 30 out of 30 rather than 100 topics. The mean scores for each topic were rank ordered and the practitioner vs. faculty means and ranks were compared.

A t-test analysis showed significant difference in value to practitioners vs. faculty in the mean ratings of 18 of the 100 topics. The means and ranks for each topic by group are shown in Table 1. Of the 18 topics, 5 (28%) were rated higher by faculty and 13 (72%) were rated higher by practitioners.

The proportion of topics ranked congruently by practitioners and faculty is presented in Table 2. Congruence was determined in the following manner.

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SOURCE: Continuing Medical Education Newsletter, July 1981.

Table 1

TOPICS RATED SIGNIFICANTLY DIFFERENT BY PRACTITIONERS AND FACULTY

	Practitioners		*Faculty*		
Topic	*Mean*	*Rank*	*Mean*	*Rank*	*P*
Favored by Faculty:					
1. Treatment of Pediatric Poisonings	4.38	58	7.80	84	.04
* 2. Environmental Complaints	0.53	2	2.96	35	.004
* 3. Helping People to Quit Smoking	4.86	66	8.75	90	.02
* 4. Exercise and the Sedentary Doctor	2.05	20.5	5.88	70.5	.005
* 5. Child and Spouse Abuse	2.22	25	6.37	74	.002
* 6. Iatrogenic Chemical Dependency	1.98	17	7.76	82	.000
7. Identification of Neonatal Sepsis	2.70	35	6.42	75	.01
8. What's New in Health Regulations	1.33	7	3.25	41	.05
9. A Protocol for Menstrual Irregularities	5.00	68	9.34	93	.01
*10. Patient Education and Compliance	1.50	10.5	5.17	64	.003
11. Preventive Health Care—Screening	4.25	55	8.14	85	.02
*12. FP's Role in Crisis Intervention	2.67	34	6.14	73	.01
*13. Ethical Issues in Med. Practice	1.70	12	5.30	65	.005
Favored by Practitioners:					
14. Office Management of ENT Disorders	12.86	100	9.30	92	.04
15. Evaluation of Head and Neck Pain	6.39	80	2.51	28	.007
16. Management of Bell's Palsy	3.02	41	0.66	2	.01
17. Management of Cong. Heart Failure	6.27	78.5	3.08	39	.03
18. Oxygen Therapy in Acute and Chronic Respiratory Failure	5.11	70	1.63	13	.008

* = Nine behavioral topics

Table 2

QUARTILE RANKINGS FOR ALL 100 TOPICS

	Practitioners			
Faculty	*1st quartile (least important)*	*2nd quartile*	*3rd quartile*	*4th quartile (most important)*
1st quartile (least important)	17%	7%	1%	0%
2nd quartile	3%	9%	11%	2%
3rd quartile	4%	9%	8%	4%
4th quartile (most important)	1%	0%	5%	19%

Perfect congruence would result if sum of all four shaded cells would equal 100

Practitioner mean ratings were rank ordered and assigned to the appropriate quartile of importance, with the first quartile being the least important and the fourth quartile the most important. Faculty mean ratings were also rank ordered and assigned to quartiles. Those topics that were assigned to the same quartile of importance by both faculty and practitioners were said to be congruent. The shaded portion of Table 2 presents the percent of congruent ranks in each quartile. It can be seen that 19% of all topics were ranked as most important by both groups; 8% were ranked as next in importance; 9% were third; and 17% were commonly judged to be the least important. Thus, 53% of the topics were ranked congruently and 47% were not. Included in this 47% was an approximately equal number of topics rated higher by faculty (22%) and topics rated higher by practitioners (25%). Titles of the 19 congruent topics in the fourth quartile and the 17 congruent topics in the first quartile are presented in Table 3.

The 100 topics on the survey include 17 which were clearly psychosocial or behavioral and 83 which were limited to biomedical aspects of the subject. The 18 topics with significantly different ratings (see Table 1) were divided into two categories. Nine of these were behavioral and 9 were biomedical. Thus, of the 83 biomedical topics, 11% (9) had significantly different ratings. Of the 17 behavioral topics, 53% (9) were significantly different.

Table 4 presents the quartile ranking of each of the 18 significantly different topics. The numbers correspond to the topic numbers listed in Table 1. The asterisks indicate behavioral topics. All 9 of the significantly different behavioral topics were rated higher by faculty than practitioners. Of the 9 medical topics in Table 4,5 were rated higher by practitioners and 4 by faculty. Of the 8 behavioral topics that were *not* significantly different (not presented in Table 4) faculty rated all but one higher than practitioners with 3 of the 8 ranked in adjacent quartiles. Of the 74 medical topics not rated significantly different, 41 were rated higher by practitioners, 30 by faculty and 3 were tied.

Table 3
HIGHEST AND LOWEST COMMONLY RANKED TOPICS

Topics Rated as Most Important	*Topics Rated as Least Important*
Office Management of ENT Disorders	Handling Problems of Constipation
Care of Hypertensives	The Patient with Kidney Stones
Commonly Used Drugs in Contraindications	Early Diagnosis of Congenital Dislocation of Hip
What's New in Diabetes	Amniocentesis
Office Orthopedics	Supportive Therapy in Burn Care
Are Any Drugs Safe in Pregnancy?	Screening for Scoliosis
Blood Gases, Interpretation and Management	Sudden Infant Death Syndrome
Arrhythmia Recognition and Management	Genetic Counseling
Office Gynecology	Nutrition and Cancer
Common Skin Diseases	Benign Diseases of the Breast
Estrogen with Postmenopausal Women	Management of Streptococcal Diseases
Emergency Management of Shock	Progressive Hearing Loss in Children
Modern Uses of Ultrasound	Genetic and Metabolic Screening in Newborn
Sports Injuries	Abortion and Abortion Referral
Special Problems of Geriatric Medicine	Communicable Diseases Outbreaks
New Antibiotics	Treatment for Insect Bites and Stings
Optimal Prenatal Care	Routine Dental Care and What Warrants Referral
Depression—How Do You Recognize It?	
Optimal Well Baby Care	

Table 4
QUARTILE RANKINGS FOR THE 18 TOPICS WITH SIGNIFICANTLY DIFFERENT RATINGS

	Practitioners			
Faculty	*1st Quartile*	*2nd Quartile*	*3rd Quartile*	*4th Quartile*
1st Quartile (least important)	–	16	18	–
2nd Quartile	2* 8	–	–	15 17
3rd Quartile	4* 5* 10* 13*	7 12*	–	–
4th Quartile (most important)	6*	–	1 3* 9 11	14

* = Behavioral Topics

Discussion

The presence of an "ivory tower effect" received partial support from the present data in that there does seem to be some lack of congruence between faculty and practitioner assessments of CME needs. Congruency is here defined as the placement of a topic by both groups in the same quartile of importance. The lack of agreement was greatest in the area of psychosocial or behavioral medicine with only 29% of the behavioral topics ranked congruently. The disagreement was less marked in the medical area with 57% of the medical topics ranked in the same quartile.

To the extent that it exists, this lack of agreement concerning the relative importance of perceived CME needs poses a problem for program planners. If faculties select topics based on their own perceptions of practitioner needs, they will often miss the mark as far as practitioners' self-perceptions of needs are concerned. This might result in decreased attendance and/or decreased learner motivation. If faculties present only those topics practitioners think they need, they (faculties) may be slighting their responsibilities as educational leaders.

Faculties involved in program planning need to interact with potential participants before topic selection is completed. The problem can then be approached in several ways: 1) a compromise can be achieved by including topics that are given high priority by each of the respective groups; 2) faculties can explain how they see their choices relating to practitioner needs; 3) faculties can research practitioner needs based on in-office observation and investigation; and 4) attempts can be made by both groups to explain the rationale behind their choices, and thus, perhaps, change each others' perceptions about the importance of various topics. Faculties may be too little aware of practice patterns; practitioners may not be keeping up with current trends. Such dialogue has the potential of increasing the congruency between faculty and practitioner needs assessments. And the closing of the needs assessment gap may be one way to increase the effectiveness of CME and increase the number of participants.

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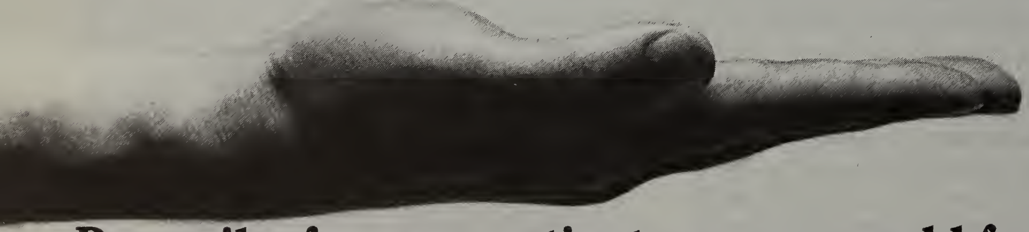

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St. John's Hospital Medical Staff
vs.
St. John Regional Medical Center, Inc.

Guillermo M. Huet, M.D., et al, Defendants

SUPREME COURT OF SOUTH DAKOTA

Argued May 27, 1976

Decided Sept. 3, 1976

Hospital medical staff brought action for declaration of rights and duties of staff and hospital under bylaws. The Circuit Court entered judgment for medical staff and hospital appealed. The Supreme Court held that medical staff bylaws adopted and approved by both the hospital and the medical staff constituted a contract which, by its terms, was subject to amendment when the amendment was agreed to by both the medical staff and the hospital, and medical staff bylaws unilaterally adopted by hospitals were null and void.

Affirmed.

1.Declaratory Judgment

Hospital medical staff which represented an unincorporated association of physicians holding medical staff privileges at hospital was a proper party to bring action for declaration of rights and duties under medical staff bylaws.

2. Corporations

As a general rule, the bylaws of a corporation, so long as adopted in conformity with state law, constitute a binding contract between the corporation and its shareholders.

3. Hospitals

Medical staff bylaws which were adopted by medical staff and approved by hospital constituted a contract which was, by its express terms, subject to amendment when the amendment was agreed to by both the medical staff and the hospital, and bylaws unilaterally adopted by the hospital were null and void.

4. Corporations

The principles which govern the construction of contracts also govern the construction and interpretation of corporate bylaws.

St. John's Hospital Medical Staff (hereinafter referred to as medical staff) is an unincorporated association whose members are physicians duly licensed to practice medicine in South Dakota, holding medical staff privileges at and utilizing the facilities of the St. John Regional Medical Center, Inc., of Huron, South Dakota. St. John Regional Medical Center (hereinafter referred to as medical center) is a South Dakota corporation, incorporated under the laws regulating nonprofit corporations and is authorized to operate in the State of South Dakota.

This is an action for declaratory judgment . It was commenced by the medical staff on June 25, 1973, asking the trial court to determine the rights and duties of the parties under an agreement designated as the "Bylaws, Rules, and Regulations of St. John's Hospital Medical Staff" (hereinafter referred to as medical staff bylaws) as those bylaws relate to the corporate bylaws (hereinafter referred to as medical center bylaws) enacted by the defendant. Plaintiffs requested the trial court to compel the defendant to abide by the provisions of certain medical staff bylaws and to invalidate the purported changes unilaterally made by the medical center in such bylaws. The trial court granted the requested relief and the medical center appealed. On appeal, the medical center argues (1) that the trial court erred in holding that a legal contract existed between the medical staff and the medical center by reason of the medical staff bylaws, and (2) that the medical staff lacks the attributes of a legal entity necessary to commence this action.

In 1947, and prior thereto, there were two hospitals operating in Huron; one was Sprague Hospital, operated by the Huron Clinic Group and the other was the Tschetter Hospital, operated by the Tschetter-Hohm Clinic Group. Other physicians practicing in the community but not associated with either group constituted

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EDITOR'S NOTE: Legal citations are deleted.

a third group. In 1944, the Huron Clinic Group encouraged the Franciscan Sisters of Chicago to come to Huron and construct a hospital which is now the medical center. At this same time, plans were being made and steps were being taken by the Tschetter-Hohm Group to build a hospital in Huron. Because of economic factors, however, the Tschetter-Hohm Group abandoned its plans to construct a competing hospital and joined in the construction of the medical center. In October 1947, as construction of the medical center neared completion, the Sisters of the Franciscan Order proposed certain medical staff bylaws to regulate the affairs of the physicians wanting to use the hospital. These bylaws were taken from a book on hospital organization and management.[1] They were printed and distributed to the doctors of the area who were considering association with the hospital. The proposed medical staff bylaws contained an "Amendment Article" and an "Equally Binding Article." The interpretation and effect of these articles formulate the main issues of this action. The "Amendment Article" provides:

Article VIII

> "These by-laws may be amended after notice given at any regular meeting of the staff. Such notices shall be laid on the table until the next regular meeting and shall require a two-thirds majority of those present for adoption. Amendments so made shall be effective when approved by the governing body."

The "Equally Binding" article provides:

Article IX

> "These by-laws shall be adopted at any regular meeting of the staff and shall become effective when approved by the governing body of the hospital. They shall when adopted and approved, be equally binding on the governing body and the staff."

After a great deal of discussion concerning these two provisions, as well as provisions relating to the internal rotation of staff, the medical staff bylaws were adopted by the medical staff and approved by the medical center.

These medical staff bylaws were in effect from 1947 until 1972. During that time, various amendments were made to them in accordance with the amendment procedure prescribed. In 1972, the medical center wished to make certain changes in the bylaws.[2] The attempted changes were unacceptable to the medical staff and an impasse developed. Out of this impasse springs the present lawsuit.

On November 24, 1972, the board of directors of the medical center unilaterally adopted new medical staff bylaws which were *not* approved by the medical staff. The medical center now insists that the medical staff is bound by the bylaws so adopted. The medical staff contends and the trial court held that the 1972 revised medical staff bylaws are null and void by reason of the fact that they were not enacted according to the provisions set out in the original 1947 medical staff bylaws.

The main issue raised in this appeal is whether the board of directors of the medical center has the power to amend the 1947 medical staff bylaws without the participation and approval of the medical staff as provided for in Article VIII of the medical staff bylaws. The medical center argues that the trial court erred in holding that a legal contract existed between the medical staff and the medical center by reason of the original 1947 medical staff bylaws. It raises two policy arguments in support of this contention: the power to amend the articles must be lodged in the directors in order (a) to avoid impending loss of accreditation, and (b) to avoid the possibility of independent hospital liability in some future case of malpractice. After a review of the record, we find these arguments to be without merit. The trial court specifically held that there was no evidence that the hospital would lose accreditation if it were not allowed to revise the medical staff bylaws. Further, the medical center's assertions regarding independent liability are premature and not vital to this appeal. We therefore decline to decide that issue.

1. The medical center additionally argues that the medical staff lacks the attributes of a legal entity necessary to commence this action. As stated above, the medical staff represents an unincorporated association of the individual physicians holding medical staff privileges at the medical center.

> "The word 'person' wherever used in [the declaratory judgment chapter] shall be construed to mean any . . . unincorporated association, or society of any character whatsoever."

Therefore, plaintiff medical staff is a proper party to bring this action.

The remaining question to be resolved is whether the trial court erred in holding that the medical staff bylaws adopted and approved by both the medical center and the medical staff constitute a contract.

2. As a general rule, the bylaws of a corporation, so long as adopted in conformity with state law, constitute a binding contract between the corporation and its shareholders.

3. An analogous rule in the area of medical staff bylaws is found in *Berberian v. Lancaster Osteopathic Hospital Association, Inc.*, where the court stated that "[the relationship between a hospital association and a member of the hospital's staff is based on contract . . .]" The court continued:

> "While [the doctor's] relationship to the hospital was not that of membership in a voluntary organization, nevertheless he and the hospital had, in legal contemplation, entered into a contract whereof the provisions of the staff by-laws, as

> approved by the hospital's board of directors, constitute the legally binding terms. In the circumstances present, the defendant corporation is bound by the staff by-laws just as much as a voluntary association is bound by the provisions of its by-laws. In both instances, the respective organizations have enacted and approved the by-laws which are an integral part of the contractual relationship between such organizations and their members or ones holding under them."

In the present case, we hold that the 1947 medical staff bylaws do constitute a contract which is, by its express terms, subject to amendment when the amendment is agreed to by both the medical staff and the medical center.

4. The principles which govern the construction of contracts also govern the construction and interpretation of corporate bylaws. One such construction principle is that:

> ". . . where the terms of a contract are plain and unambiguous, the duty of the court is to construe it as it stands, giving effect to the plain meaning of the language used . . ."

In the instant case, Article IX of the 1947 medical staff bylaws, governing the effect that their approval shall have, provides that:

> ". . . They shall when adopted and approved be equally binding on the governing body and the staff."

The medical staff bylaws were so adopted and approved. Therefore, both the medical staff and the medical center are bound by them until they are amended in accordance with the procedure set out in Article VIII as hereinbefore set forth so long as these bylaws are in conformity with state law.

> ". . . The power to alter, amend or repeal the bylaws or adopt new bylaws shall be vested in the board of directors *unless otherwise provided in . . . the bylaws.* The bylaws may contain any provisions for the regulation and management of the affairs of a corporation not inconsistent with law or the articles of incorporation." (emphasis supplied)

In the present case the medical staff bylaws did so otherwise provide.

5. South Dakota statutes recognize the power in a corporation to delegate a voice in the adoption of new bylaws to another entity. Such is the case here. The original articles of incorporation and medical center bylaws authorize the medical staff to promulgate medical staff bylaws. These medical staff bylaws call for a specific amendment procedure which must be followed. The medical center by ignoring the procedure set forth in Article VIII and by not including the medical staff in the attempted bylaws amendment has breached this contractual relationship with the medical staff.

It is therefore the holding of this court that the 1947 medical staff bylaws, after approval by the medical center, were binding upon the medical center and must be amended in accordance with Article VIII of those bylaws. Therefore, the medical staff bylaws unilaterally adopted by the medical center are null and void.

Affirmed [unanimous]

> "There shall be By-Laws, rules and regulations for the Medical Staff setting forth its organization and government. Proposed By-Laws, rules and regulations may be recommended by the Medical Staff, but only those adopted by the Board of Directors shall become effective."

REFERENCES

1. McKechrine, Hospital Organization and Management.
2. E.g., one change would allow the Chief Executive Officer of the medical center to temporarily suspend the clinical privileges of a staff physician upon a determination that the action must be taken immediately in the best interests of the patient care in the medical center. Another change would require medical center approval of all officers of the medical staff. These examples are for illustrative purposes only.

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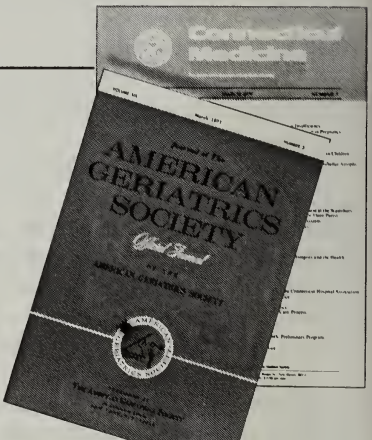

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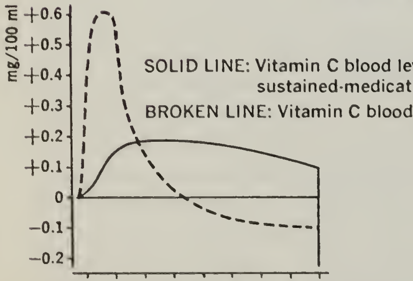

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AMA-ABA Statement on Interprofessional Relations for Physicians and Attorneys

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In 1957 the AMA and the ABA jointly created a liaison committee to consider medicolegal problems. One of the first projects of this committee was the drafting of a National Interprofessional Code for Physicians and Attorneys. That Code was approved by the AMA House of Delegates at its annual meeting in June 1958 and by the ABA at its annual meeting in August 1958. The Code has been used extensively over the intervening years by physicians and attorneys and by medical societies and bar associations. Many state and local medical societies and bar associations have established their own joint committees to consider medicolegal problems, and most of these joint committees have adopted the Interprofessional Code for Physicians and Attorneys, sometimes with revisions to suit local needs or interests.

The joint liaison committee of AMA and ABA is now known as the National Conference of Representatives of the American Medical Association and the American Bar Association. Over the last few years this committee has been engaged in a review of the National Interprofessional Code for Physicians and Attorneys. Earlier this year the committee adopted a complete revision of this document which has been entitled "The AMA-ABA Statement on Interprofessional Relations for Physicians and Attorneys." A copy of that statement is attached to this report.

This statement was adopted by the House of Delegates of the American Bar Association at its annual meeting in August 1981.

The Board of Trustees has approved this statement and recommends that it be adopted by the House of Delegates.

This statement has been prepared by the National Conference of Representatives of the American Bar Association and the American Medical Association. The statement was adopted by the respective associations in 1958 and amended in 1981. The suggestions in this statement are advisory and voluntary, and readers are cautioned that there may well be other responsible ways of handling the issues that are raised. The only limitations and restrictions that can be binding or governing are those imposed by applicable statutes, court decisions, and regulations promulgated by government agencies.

Preamble

This statement recognizes that, with the growing interrelationship of medicine and law, it is inevitable that physicians and attorneys will be drawn into steadily increasing association. It will serve its purpose if it promotes the public welfare, improves the practical working relationships of the two professions, and facilitates the administration of justice.

Medical Reports

The physicians upon proper authorization should promptly furnish the attorney with a complete medical report, and should realize that delays in providing medical information may prejudice the opportunity of the patient either to settle his claim or suit, delay the trail of a case, or cause additional expense or the loss of important testimony.

The attorney should give the physician reasonable notice of the need for a report and clearly specify the medical information which he seeks.

Conferences

It is the duty of each profession to present fairly and adequately the medical information involved in legal controversies. To that end the practice of discussion in advance of the trial between the physician and the attorney is encouraged and recommended. Such discussion should be had in all instances unless it is mutually agreed that it is unnecessary.

Conferences should be held at a time and place mutually convenient to the parties. The attorney and

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EDITOR'S NOTE: This is a report of the AMA Board of Trustees to the House of Delegates at its Annual Meeting in 1981.

the physician should fully disclose and discuss the medical information involved in the controversy.

Subpoena for Medical Witness

Because of conditions in a particular case or jurisdiction or because of the necessity for protecting himself or his client, the attorney is sometimes required to subpoena the physician as a witness. Although the physician should not take offense at being subpoenaed the attorney should not cause the subpoena to be issued without prior notification to the physician. The duty of the physician is the same as that of any other person to respond to judicial process.

Arrangements for Court Appearances

While it is recognized that the conduct of the business of the courts cannot depend upon the convenience of litigants, lawyers or witnesses, arrangements can and should be made for the attendance of the physician as a witness which take into consideration the professional demands upon his time. Such arrangements contemplate reasonable notice to the physician of the intention to call him as a witness and to advise him by telephone, after the trial has commenced, of the approximate time of his required attendance. The attorney should make every effort to conserve the time of the physician.

Physician Called as Witness

The attorney and the physician should treat one another with dignity and respect in the courtroom. The physician should testify solely as to the medical facts in the case and should frankly state his medical opinion. He should never be an advocate and should realize that his testimony is intended to enlighted rather than to impress or prejudice the court or the jury.

It is improper for the attorney to abuse a medical witness or to seek to influence his medical opinion. Established rules of evidence afford ample opportunity to test the qualifications, competence and credibility of a medical witness; and it is always improper and unnecessary for the attorney to embarrass or harass the physician.

Fees for Services of Physician Relative to Litigation

The physician is entitled to reasonable compensation for time spent in conferences, preparation of medical reports, and for court or other appearances. These are proper and necessary items of expense in litigation involving medical questions.

Payment of Medical Fees

The attorney should do everything possible to assure payment for services rendered by the physician for himself or his client. When the physician has not been fully paid the attorney should request permission of the patient to pay the physician from any recovery which the attorney may receive in behalf of the patient.

Vaccination Recommendations

a. Oral polio vaccine can be given to infants regardless of the polio vaccine status of adult household contacts.

b. Persistent crying (unconsolable crying for more than three hours) after a DPT is a contraindication to further use of DPT vaccine. Temperatures of 105°F or higher within 48 hours is likewise a contraindication to subsequent use.

c. *All* "household" contacts (households containing children up to age four) of patients with invasive H influenzae b infections should receive Rifampin prophylaxis (20 mgm/kg, maximum 600 mgm, once daily for four days). Nursery school and day care center contacts are the equivalent of household contacts. The patient himself should receive "prophylaxis" at the end of treatment.

d. Universal reimmunization for rubella, measles or polio is unwarranted.

—*Redbook* report. Committee on Infectious Diseases, American Academy of Pediatrics News, March 1982

Current Medicolegal Issues

THE CITATION—AMA

Court Reverses Decision in Dermatologist's Breach of Contract Suit Against Telephone Company

A trial court committed reversible error in a breach of contract against a telephone company for incorrectly listing a dermatologist's address in its Yellow Pages, a Florida appellate court ruled.

The dermatologist's professional corporation filed suit against the telephone company for damages for incorrectly listing his address in the 1977 Yellow Pages. The physician's name, specialty and telephone number were correctly listed. A jury awarded the corporation $92,929.00 in damages, and the telephone company appealed.

Reversing the decision, the appellate court said that the trial court erred in admitting patient interview sheets into evidence. Those sheets were used by the corporation's accountant to calculate the number of patients who would have been referred if the directory had been correct. The calculated 144 lost patients were assigned the same percentage of disease categories as the 1976 referrals. Lost profits were based on the projected treatments and length of treatment for each "lost" patient. The trial judge had granted a protective order preventing the telephone company from obtaining copies of the patient interview sheets on grounds of physician-patient privilege. The judge later reversed himself and granted permission to the telephone company to view the sheets the evening after the first day of trial. The appellate court said that the court erred in not granting the telephone company sufficient time to defend against the reliability of the sheets.

A second reversible error was the trial court's failure to deduct the compensation paid to the dermatologist in computing net profits, the appellate court said. The general rule in computing net profits of a corporation was to deduct the compensation of its officers and employees, and there was no reason to alter the rule for a professional corporation, the court said.—*Southern Bell Telephone and Telegraph Company v. Kaminester,* 400 So. 2d 804 (Fla. Dist. Ct. of App., June 30, 1981)

Wrongful Death Action Not Barred by Time

A wrongful death action filed within two years of a patient's death was not barred by the statute of limitations, a Michigan appellate court ruled.

On July 27, 1976, the patient was admitting his wife to a hospital when he suffered chest pain and was himself admitted. He was discharged from the hospital on August 10, 1976, and died on May 26, 1978.

The administratrix of the patient's estate filed suit against the hospital and a physician for wrongful death in July 1979. She contended that his death was the result of failure to diagnose and treat his severe and generalized arteriosclerotic cardiovascular disease.

The physician had allegedly treated the patient for chest pains, headaches, shortness of breath, tiredness, and high blood pressure prior to his hospitalization. He stated that he last treated the patient on September 30, 1976, but a letter from two physicians was presented to show that he had received a report on the patient's condition on November 23, 1976. The trial court found that the two-year statute of limitations for malpractice barred the action because it accrued on the date the patient was last treated by the hospital and physician.

On appeal, the primary question was whether the cause of action in a wrongful death suit accrued on the last date of treatment or on the date of death. The court pointed out that a suit for wrongful death could not have been filed until the patient's death. Therefore, the date of death had to be considered the date of accrual of a cause of action for wrongful death, regardless of whether death resulted from general negligence or medical malpractice.

Finding that the action was timely filed because it was filed within two years of the patient's death, the court reversed the trial court's judgment and sent the case back for trial.—*Penner v. Seaway Hospital,* 302 N.W. 2d 285 (Mich. Ct. of App., Jan. 6, 1981)

Antitrust Claims Rejected in Hospital Privileges Challenge

There was no violation of antitrust law when a hospital rejected a thoracic surgeon's application for staff privileges, a federal court in Pennsylvania ruled.

The physician applied for and was denied privileges at a hospital in Pittsburgh. He then sued the hospital,

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THE CITATION is a newsletter on medicolegal issues prepared by the Office of The General Counsel of the American Medical Association.

the trustees of the hospital, the director of the department of surgery, and a professional corporation of cardiothoracic surgeons that performed 95 per cent of the open heart operations at the hospital and of which the director was a member. The suit alleged violations of sections 1 and 2 of the Sherman Act as well as a denial of due process and violations of various contract laws. The court ruled against the physician on all counts.

In its 80-page opinion, the court first analyzed the nature of open heart surgery and the role of the physicians and hospitals involved. It then discussed in detail the physician's application for staff privileges and the procedures and actions of the hospital in the evaluation of the application.

Regarding the initial legal issues in the antitrust claims, the court held that for antitrust purposes the "product" involved was "adult open heart surgery" and that the court had jurisdiction under the Sherman Act because in providing the product the defendants' activities had a substantial impact on interstate commerce. In defining the "geographic market" for antitrust purposes, the court analyzed the distribution of open heart operations performed in and around Pittsburgh, and in western Pennsylvania, northern West Virginia, and eastern Ohio, and held the relevant geographic market to be a sixteen-county area in the three states.

All of the physician's antitrust claims were rejected by the court. Under section 2 of the Sherman Act, the court held that (1) the hospital, at which about one-third of all open heart operations in the relevant geographic area was performed, did not have a monopoly in the product, (2) none of the defendants had an intent to monopolize, and (3) there was no conspiracy to monopolize. The court discussed the nature of referrals in surgery and noted that the hospital was selective in choosing staff, rather than actively recruiting all open heart surgeons in the area, and conducted a residency program in thoracic surgery, which trained future competitors.

Under section 1 of the Sherman Act, plaintiff alleged "per se" violations based on antitrust principles of "group boycott," "essential facilities," and "unfair acts with intent to destroy competition." The court rejected these claims, holding that although the hospital, professional corporation, and director must be seen as separate entities in this context, there was no proof of "concerted action" for purposes of excluding the physician from the staff or of "specific intent to injure a competitor;" rather, the medical staff and hospital acted independently in rejecting the physician's application and consistently with evaluations of other applicants. Additionally, there were five other hospitals in the area with similar facilities, at three of which plaintiff already had privileges.

In addition to the per se claims, the physician alleged violations of section 1 under a "rule of reason" analysis. The physician alleged that weighing all factors there was an unreasonable restraint on competition. The court also rejected this argument. In response to the claim of failure by the hospital to inform him of criteria for granting privileges, the court found the plaintiff was informed and was given a fair opportunity to present his case. In response to the claim that the hospital's standards were not reasonably related to its legitimate objectives, the court held that the policy of encouraging medical staff physicians to concentrate their practices at the hospital did advance legitimate institutional objectives: the residency program required staff physicians to devote time to teaching, and it was not intended that residents should regularly substitute for physicians who also practiced at other hospitals. Additionally, a physician's ability to work with others was essential to the harmony that must prevail in complex surgery.

Attorney Censured for Violating Code of Ethics

An attorney who advertised that he practiced in each of 25 areas of law listed in the Yellow Pages of the telephone directory, but admitted he had no experience in several of the categories, violated the Code of Professional Responsibility, a New York appellate court ruled. The attorney claimed that the well-established law firm with which he was associated could assist him. The court pointed out that it was the attorney, and not his law firm, who was holding himself out to the public. Because of the attorney's youth, his disclaimer of any intent to mislead or deceive, and his naivette in relying on assurances of the printers of the advertisement, the court found that he should be censured but not disbarred or suspended.—*Zimmerman v. Office of Grievance Committees,* 438 N.Y.S.2d 400 (N.Y.Sup.Ct., App. Div., Feb. 18, 1981)

Medicaid Regulations on Chiropractic X-rays Held Invalid

Medicaid regulations prohibiting payment for chiropractic X-rays were invalid, the Minnesota Supreme Court ruled. A county welfare agency refused to pay Medicaid benefits for X-rays taken by a patient's chiropractor. A trial court ordered benefits be made available, and the department of public welfare appealed. The appellate court affirmed the decision. The Medicaid statute did not prohibit payment for chiropractic X-rays, the court said. The regulations prohibiting payments for chiropractic X-rays were invalid under both state and federal law, the court added.—*Buhs v. State of Minnesota, Department of Public Welfare,* 306 N.W.2d 127 (Minn.Sup.Ct., June 5, 1981)

Month in Washington

At the end of the month the Senate and House were in deep debate on the budget for next fiscal year. The outcome will determine the size and scope of the federal health effort.

The stakes in the debate are high—the size of the federal deficit; the issue of modifying the scheduled tax cuts; adjustments in Social Security benefits; and the congressional budget process, itself.

The Senate bill, approved by the Senate Budget Committee on a party-line vote and endorsed by President Reagan, calls for $95 billion in additional taxes over the next three years, a freeze on most domestic spending and a smaller increase in Defense spending than originally sought by the Administration. The most controversial provision is for an unspecified savings of $40 billion in Social Security benefits.

The House Budget Committee bill, also adopted by a party vote, would leave Social Security benefits intact and provide for higher domestic spending levels.

The Senate bill would cut Medicaid benefits by $700 million next fiscal year, compared with only $59 million in the House bill. The Senate Medicare reduction was $5.1 billion, almost $3 billion more than the House measure provides.

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The Federal Trade Commission's asserted jurisdiction over the professions, including medicine, would be stripped from it under a bill approved by the Senate Commerce Committee.

The Committee action, on a 10-5 vote, was a triumph for the American Medical Association and other professional groups that have been challenging the FTC's seven-year campaign against health and other professional associations.

The Supreme Court earlier this year failed to resolve the jurisdictional question in a tie, 4-4 vote on the landmark FTC case against the AMA's code of ethics governing advertising by physicians. As a result, the FTC's strictures against the AMA were left standing.

The AMA and other professions have argued that the FTC was established to police business activities, not those of the learned professions which are governed by state regulations.

The Commerce Committee action came after a heated debate on an amendment by Sen. Ted Stevens (R-AK) to a bill reauthorizing the FTC for three years. Addressing his fellow committee members and before a crowded hearing room, Stevens said the FTC had not asserted any jurisdiction against the professions until 1975, after which "there has been considerable controversy."

The Committee should assure that the states can continue their traditional role of regulating the professions and the professions should be given the opportunity to discipline themselves, Stevens said. He noted that the Justice Department would continue to have powers to employ the antitrust statutes against the professions.

"The issue is the increasing extension of the federal bureaucracy into our daily lives," asserted Stevens. "Why should the FTC remove from the states the burden of being responsive to change?" he asked. If the present FTC course continues, the Senator said, "in the end you will have federal standardization of the professions."

The opposition to Stevens' amendment was led by Committee Chairman Bob Packwood (R-OR). "Professional associations are honest and decent but as they see it often isn't the way the public sees it," Packwood said. He contended that state medical and bar associations are "hardly ever" regulated by the states.

Sen. Robert Kasten (R-WI), Chairman of the Committee's Subcommittee on the Consumer which handled the FTC legislation, said he supported the Stevens proposal because the FTC over the past few years "has directly overridden state regulatory programs." The agency, he said, "has gone beyond the general guidelines of what we would like to have from it."

Voting for the amendment were Sens. Stevens, Kasten, Barry Goldwater (R-AZ), Harrison Schmitt (R-NM), Larry Pressler (R-SD), Ernest Hollings (D-SC), Daniel Inouye (D-HI), Wendell Ford (D-KY), James Exon (D-NE), and Howell Heflin (D-AL).

In opposition were Sens. Packwood, Slade Gorton (R-WA), Nancy Kassenbaum (R-KS), Howard Cannon (D-NV), and Donald Riegle (D-MI).

A few days before the Senate Committee vote, the AMA and seven other professional organizations had sent a telegram to President Reagan urging support for their position against FTC jurisdiction, since this would be "consistent with your goals of reducing federal regulation, restoring power to the states and relying more on private sector responsibility."

"This is a matter of major importance to all professional groups, and we are concerned that this Administration appears to be unresponsive" the telegram concluded.

Signing were the AMA, the American Dental Association, the American Optometric Association, the American Veterinary Medical Association, the National Society of Professional Engineers, the American

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Prepared by the Washington, D.C.
Office of the American Medical Association

Institute of Architects, the American Consulting Engineers Council, and the American Society of Civil Engineers.

The House Commerce Committee is expected to take up the questions of FTC reauthorization and jurisdiction soon. There is a strong drive in the House behind a measure (H.R. 3722) by Reps. Thomas Luken (D-OH) and Gary Lee (R-NY) that would impose a moratorium on FTC's actions against the professions. Almost 200 House members have cosponsored the bill.

The Stevens amendment before the Senate Committee was patterned after legislation (S. 1984) introduced by Sens. James McClure (R-ID) and John Melcher (D-MT), two leading Senate proponents of restricting the FTC's scope over the professions.

The legislation is given a good chance of clearing Congress if opponents do not succeed in keeping it from floor votes in House and Senate.

* * * *

The House Commerce Committee has formally adopted a proposal to place federal health planning into a block grant to the states, stripping most centralized control from the controversial program.

The action came on an amendment by Reps. Richard Shelby (D-AL) and Edward Madigan (R-IL) over the initial opposition of Rep. Henry Waxman (D-CA), chairman of the health subcommittee.

The program would be kept alive for two more years with funding of $64 million next fiscal year. However, the nature of the program would be changed significantly with the states and localities given a much freer hand and many current restrictions lifted.

The certificate-of-need (CON) requirements in present law would be liberalized greatly, with the CON for capital expenditures put at $5 million in comparison with the present $600,000. The CON for institutional health services would be set at $1 million.

Strongly opposed by the AMA, the planning program which is up for reauthorization this year, has been a target of the Reagan Administration which wants to phase it out.

The Senate Labor and Human Resources Committee on a tie vote last month blocked a proposal to continue and revise the planning program.

* * * *

The government has reported progress in collecting overdue school loans from health professionals and announced new steps to improve collection and prevent abuses.

As a result of a crackdown on overdue loans, 80 physicians employed by the Health and Human Services (HHS) Department were discovered to be delinquent and notified they will be disciplined unless payments are brought up-to-date immediately. A review by HHS Inspector General Richard Kusserow also found 83 delinquent physicians associated with medical schools.

Kusserow said six medical schools have increased collections by almost 250 percent. More than $5 million in delinquent loans could be erased within one year at that rate, Kusserow said.

The review revealed $30.6 million in delinquent loans with more than $5 million owed by physicians.

New regulations will establish new delinquency rate ceilings for schools and penalties for exceeding the ceilings. The Public Health Service Student Financial Aid guidelines are being revised to require schools to go to court to recover loans if necessary.

Sen. Charles Percy (R-IL) has introduced legislation that would allow the Internal Revenue Service to release current addresses of delinquent borrowers to the schools holding the loans.

* * * *

The Social Security Administration has proposed new medical standards to be used in evaluating disability claims.

The slightly tighter medical standards, published recently in the Federal Register for 60-day comment, are not related to the more rigorous standards announced last year for the disability program as a whole. Significant reductions to the number of beneficiaries is expected under the program.

The revisions on the Listing of Impairments reflect advances in medical treatment and diagnosis and Social Security's experience in evaluating claims. They are not based on any changes in the law.

Of the 13 body systems in the Listing, changes are proposed in all but two—skin disorders and genito-urinary.

Significant changes are recommended for: respiratory, musculoskeletal, cardiovascular, digestive, hemic and lymphatic, neurological and neoplastic. Less significant are changes for special senses and speech and the multiple body systems listing. Minor changes are proposed for mental disorders and endocrine systems.

Slight changes also are proposed for the Listing of Impairments used in evaluating children under age 18 for Supplemental Security Income disability claims. The changes are for musculoskeletal, special senses and speech, genito-urinary, mental and emotional disorders, and neoplastic disease.

Aspartame and Other Sweeteners

Aspartame *(NutraSweet*—Searle), a synthetic combination of two amino acids (L-aspartyl-L-phenylalanine methyl ester), will soon be available in the USA for use as a sweetener in breakfast cereals, powdered beverages, gelatins, puddings, fillings, whipped toppings, and chewing gum. It is also available under the trade name *Equal* as a tablet or in powder form for table use. Although also used in Canada in low-calorie soft drinks, aspartame will not be available in liquid beverages in the USA.

Sweetness, Calories, and Caries

Aspartame is about 180 times as sweet as sucrose; the amount of aspartame equivalent in sweetness to one teaspoonful of sugar (16 calories) contains only 0.1 calorie. *Equal,* the powder form of aspartame supplied in packets, has about two calories per teaspoonful because it also contains lactose. Prolonged storage and heat can decrease the sweetness of aspartame; its unavailability in soft drinks in the USA is due partly to this lack of stability, and possibly also to concern about adverse effects from high levels of consumption. Studies in rodents indicate that, unlike sucrose, aspartame does not promote formation of dental caries.

Adverse Effects

Aspartame is completely hydrolyzed in the gut to methanol, aspartic acid, and phenylalanine (RE Ranney et al, J Toxicol Environ Health, 2:441, 1976). Large amounts of phenylalanine can damage the central nervous system in patients with phenylketonuria (PKU), who cannot metabolize phenylalanine, and also can harm the fetus when a pregnant woman has hyperphenylalaninemia, but there is no evidence that the amount of phenylalanine derived from aspartame is dangerous to normal people (LD Stegink et al, J Toxicol Environ Health, 7:281, 291, 1981). In patients heterozygous for phenylketonuria who took 100 mg/kg daily of aspartame (an enormous dose), plasma concentrations of phenylalanine increased but did not reach toxic levels (LD Stegink et al, J Nutr, 110:2216, 1980). The amount of phenylalanine from aspartame must be calculated in the diets of homozygous patients with phenylketonuria (R Koch et al, J Toxicol Environ Health, 2:459, 1976).

Administration of aspartame increases plasma concentrations not only of aspartate but also of glutamate. Hypothalamic lesions similar to those caused by high doses of monosodium glutamate (JW Olney, in LJ Filer, Jr, et al, eds, *Glutamic Acid: Advances in Biochemistry and Physiology,* New York:Raven, 1979, p 287) have occurred in newborn mice fed large doses of aspartame, but the amount of aspartame that would have to be ingested by people to achieve neurotoxic levels is implausibly high (Federal Register, 46:38285, July 24, 1981).

Aspartame was kept off the market for many years because one study conducted by the manufacturer suggested that rats fed aspartame might have a higher incidence of brain tumors than control rats; other studies did not show a higher incidence, and the US Food and Drug Administration has concluded with "reasonable certainty" that aspartame does not cause brain tumors (Federal Register, cited above). Long-term studies of the toxicity of aspartame in people are not available.

Other Sweeteners and Sugar Substitutes

Fructose, sorbitol, mannitol, and *xylitol* have all been used as substitutes for sugar in foods for diabetics, but all of these provide as many calories as sucrose, or more. Use of *xylitol* in chewing gum and candy has decreased the incidence of dental caries in a few trials (A Scheinin et al, Acta Odont Scand, 34:179, 1976; U Harjola and H Liesmaa, Acta Odont Scand, 36:237, 1978) but, after an increased incidence of bladder stones and tumors was observed in mice fed large amounts of xylitol (RJ Smith, Science, 199:670, 1978), some chewing gums containing this sweetener were voluntarily withdrawn from the market by their manufacturers. *Saccharin* continues to be available in the USA as a sweetener and as an ingredient in many packaged foods and probably all toothpastes, even though questions about its carcinogenicity have not been fully resolved. *Glycyrrhizin* has a strong licorice taste and is seldom used in food; it causes salt retention that can lead to hypertension at high dosages. *Polydextrose* (Pfizer) is not a sweetener, but it can be used instead of sugar to add body to cakes and some other prepared foods to decrease calories in those products.

Conclusion

Use of aspartame as a sweetener can decrease the caloric value of some foods, a few beverages, and chewing gum but, as with saccharin and xylitol, its long-term safety remains to be determined.

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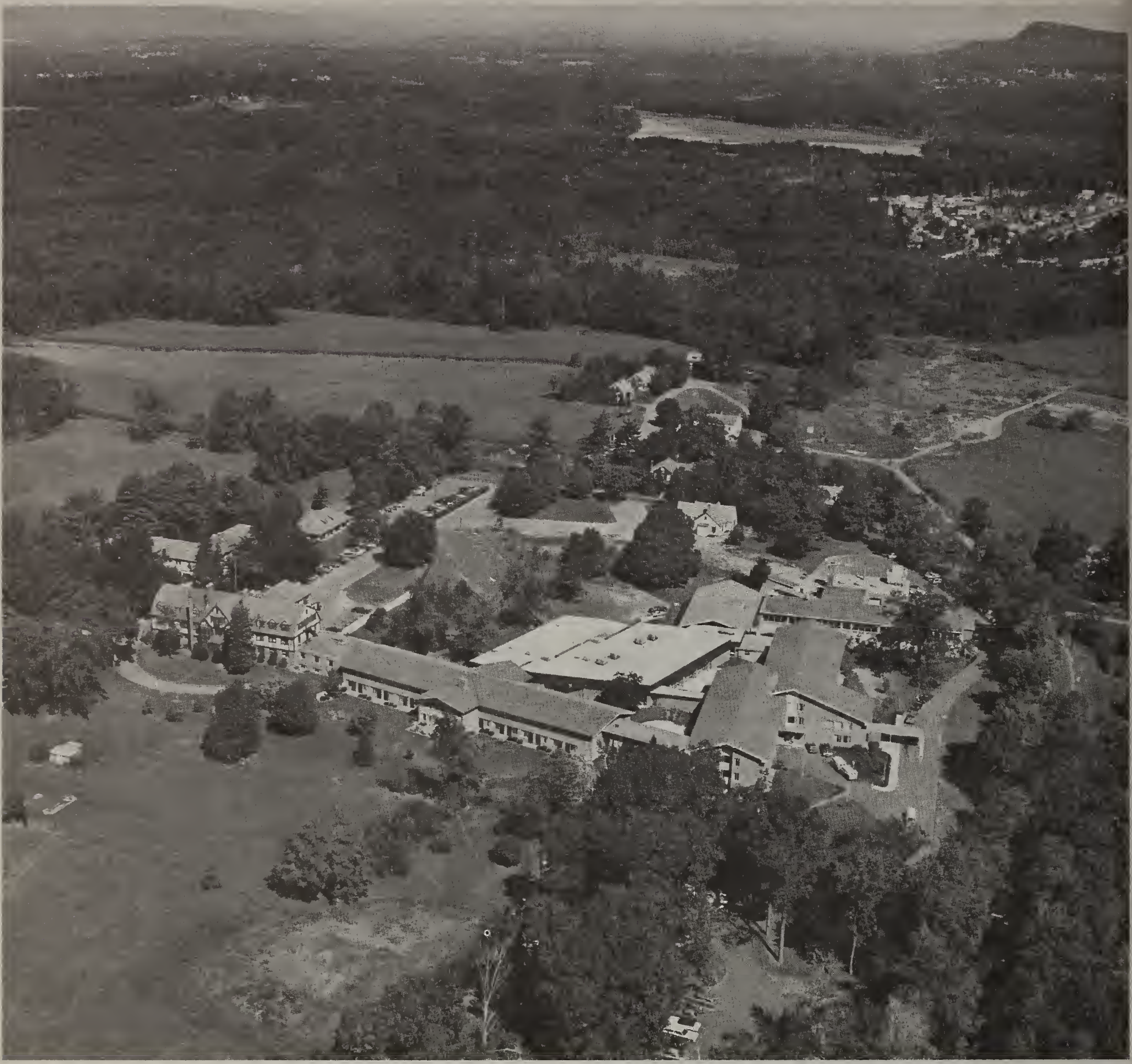

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The President's Page

A Look into the Future

From 1940 to 1980 the share of the gross national product devoted to health care in this country rose to 9.4% from 4%. There are many signs of public disillusionment with this exorbitant cost, even though life expectancy for Americans rose to 73.6 years from 62.9 in those years. Only Israel exceeds us in spending for health.

Seeing the obvious need to curb our medical extravagance, small changes in the way we practice have taken place. Ambulatory surgery clinics, home dialysis units, certain new drugs, and shorter hospital stays have all had a small impact on medical costs. However, we still overuse intensive care units and we still order too many laboratory and xray tests. The results of such tests make good chart reading and malpractice insurance but hardly change our course of managing illness. Given all these sophisticated technological advances, we have become medical spend thrifts.

Bearing most of the onus of cost containment, the hospital administrators must of necessity look at the sloppy habits of their medical staffs. They will also be concerned whether there is a real need for new medical staff personnel and their competency. Since the Darling decision, hospitals will find themselves liable on the theory of "respondeat superior." The hospitals may well decide that in view of an increasing corporate liability, they reserve the right to regulate the numbers of specialists practicing at their institution. Concomitantly, they will determine the competence of such specialists for appointment and re-appointment.

Even though the AMA insists that the number and types of doctors shall be determined by the marketplace, it would seem that some new force, whether it be the state or the state through the hospital board, will impose restrictions on medical staff personnel because of their responsibility for keeping down the cost of medical care.

The position of the practitioner will be threatened not only by the hospital board but also by the nursing staff. The latter, a voice only beginning to be heard, feel they have an increasing interest on how medical care shall be delivered to their patients. If doctoring in the future is to be done by a multimembered committee, the nurse practitioner wants in. The medical schools will be involved. They cannot continue to produce large numbers of doctors and specialists if there is no place for them to go because of staff restrictions. Notice that in Israel, where there is a higher proportion of doctors per population, there is also a greater percent of national treasure expended for medical care.

No one in his right mind wants to return to practice as it was in 1940. No one was paid for doctoring a service patient. Nurses and other hospital personnel never received a living wage. The more prestigious the hospital the less the resident received in wages during his training. The hospital bed costs were extremely low. Since 80% of hospital budgets now goes to pay salaries and since most personnel are unionized, one can hardly expect any give backs in any new contracts.

Where does that leave us? We must be willing to change our ways. We must find other ways to shorten the patient's hospital stay. The hospital must be truly a 24 hour seven day a week institution. Routine x-rays and surgery may have to be done on weekends and holidays. There must be a better geographical distribution of consultants and specialists. Nurses must spend less time reporting and recording patient notes and more time consulting with doctors and patients. At first there will be irritations and resentment but no matter what happens, the doctor-patient inter-relationship will continue. Our personal satisfaction of a cure or relief of symptoms will never be replaced. After all, that's what it's all about.

Gioacchino S. Parrella, M.D.
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Reflections from the Dean's Office

Sir Thomas Browne, 1605-1682

ROBERT U. MASSEY, M.D.

In October, 1905, William Osler gave an address at Guy's Hospital, London, on "Sir Thomas Browne"; he must have planned it to coincide with the three hundredth anniversary of Browne's birth. This year there will be many addresses memorializing the three hundredth anniversary of Thomas Browne's death; there will be a service in the Church of St. Peter's Mancroft in Norwich where Browne worshipped and was later buried.

Those of us old enough to have studied from an edition of the *Principles and Practice of Medicine* which includes the preface to the first edition may recall the dedication to "William Arthur Johnson, priest of the parish of Weston, Ontario," the first of three men to whom William Osler dedicated his textbook. Father Johnson was remembered as the teacher who introduced him to the microscope, and who read to his students from Sir Thomas Browne's *Religio Medici,* "in illustration of the beauty of the English language."

Religio Medici was Osler's constant companion in life. His first copy (1862) he called "the most precious book in my library"; later he was to acquire almost all the editions of the *Religio,* including the first one in 1642. Cushing described the scene on the night before the funeral in Christ Church Cathedral, with Osler "—lying in the scarlet gown of Oxford, his bier covered with a plain velvet pall on which lay a single sheaf of lilies and his favorite copy of the 'Religio,' *comes viae vitaeque.*"

My first reading of the *Religio Medici* was in the summer of 1937; I found a copy in my father's library, and, while it is neither very old nor of great value, it is indeed precious. Several years ago I purchased a dozen or so paperbacks of the *Religio* to give away, and made one or two converts. Even though it is barely 100 pages in length, his Augustan style requires a leisurely afternoon, and some sections deserve several readings.

Browne's *Religio* was variously received in his own time; although he remained a loyal communicant of the Church of England, rejoiced in the downfall of Cromwell and exulted in the Restoration, he was suspected of popery, skepticism, and even atheism. His fault was tolerance, unusual in the 17th century when most wars were wars of religion:

> "I could never divide my self from any man upon the difference of an opinion, or be angry with his judgment for not agreeing with me in that from which perhaps within a few days I should dissent myself. I have no Genius to disputes in Religion, and have often thought it wisdom to decline them, especially upon a disadvantage, or when the cause of Truth might suffer in the weakness of my patronage."[1]

The charitable tolerance of Browne did not rise from indifference in matters of religion. His final lines in the *Religio* express his faith: "—I set no rule or limit to Thy hand or Providence. Dispose of me according to the wisdom of Thy pleasure. Thy will be done, though in my own undoing."[2]

Browne's tolerance is not grim, legalistic, or ideological; rather it is a compound of charity and good nature. Of that latter quality he says, in *Christian Morals:*

> "Although their Thoughts may seem too severe, who think that few ill-natur'd Men go to Heaven; yet it may be acknowledged that good-natur'd Persons are best founded for that place;—"

Later, in that same discourse, Browne mentions a matter with which we continue to be troubled in medicine:

> "With what strift and pains we come into the World we remember not; but 'tis commonly found no easy matter to get out of it. Many have studied to exasperate the ways of Death, but fewer hours have been spent to soften that necessity."

Browne is more than charity and good humor; his philosophy and science illumine a century when the European world was moving from the Middle Ages to the age of science and technology. His language may at times seem obscure to those of us not raised with the notions of neoplatonism in a world of four elements.

Thomas Browne was a successful practicing physician in a time not unlike our own: a century of wars, troubled faith, intolerance, single issues, and grim ideologies. On this three hundredth anniversary of his death he is worth reading or re-reading, if only to try to understand how he managed.

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Connecticut's Wrongful Conception Case

JOSEPH M. HEALEY, J.D.

The specialty of Obstetrics and Gynecology continues to be the center of major legal and ethical attention. A colleague pointed out to me today that virtually the entire "Biomedical Ethics" section of this year's Contempo '82 issue of *J.A.M.A.*[1] is devoted to problems surrounding reproductive decision making. Of the many difficult problems raised in this area, one of the most interesting is the series of related concepts involving wrongful life, wrongful conception and wrongful birth. Recently, the Connecticut Supreme Court made its first venture into this area when the case of *Ochs v. Borrelli*[2] presented it with the opportunity to consider whether the parents of a child conceived after an unsuccessful sterilization procedure may be compensated for the costs of rearing that child when the physician who performed the procedure is found to be negligent. This case provides a starting point for the development of Connecticut law dealing with this important area of legal and ethical controversy.

In July 1973, because she had a history of miscarriage and ovarian surgery and because she had given birth to two children with orthopedic defects, Ms. Ochs sought to be sterilized by the defendant physician. The sterilization, a laparoscopic tubal ligation, was performed. Following the operation, Ms. Ochs conceived a third child born with two orthopedic problems: forefoot metatarsus adductus and a flatfoot condition. Ms. Ochs eventually underwent a second sterilization procedure which was successful. Subsequently, Ms. Ochs and her husband brought suit against the defendant physician and his professional corporation alleging negligence and seeking damages for her own medical expenses, pain and suffering caused by the failed sterilization, for the medical care necessitated by her daughter's orthopedic disability, and for the cost of raising her daughter to the age of majority. The jury found the defendants negligent and awarded Ms. Ochs $49,985 for her damages and $56,375 for her daughter's damages. On appeal, the defendants focussed on the issue of damages. With respect to Ms. Ochs' damages, the defendants claimed that the amount awarded was excessive. With respect to her daughter's damages, the defendants conceded their responsibility for her orthopedic expenses but denied responsibility for general child-rearing expenses. These issues were the major focus of the Connecticut Supreme Court's decision.

The Court treated with dispatch the first set of claims dealing with Ms. Ochs' personal damages. At trial, she had described the anxiety she had experienced throughout her pregnancy over the possible deformity of her child. Her husband testified to her emotional distress throughout the pregnancy. After the birth, she underwent a second sterilization procedure and post-surgical testing which caused her severe discomfort. Evidence of her medical expenses included: $942.60 for the birth of her daughter; $1,315.50 (hospital bill for the second tubal ligation); $350 (surgeon's fee for the sterilization and subsequent test). In light of the evidence presented, the Court refused to regard the jury's award of $49,985 as excessive or the trial court's acceptance of it as improper.

The second set of claims involved the extent to which a cause of action for wrongful conception may include a claim for the recovery of ordinary child-rearing expenses. The defendants asserted that public policy considerations required that the birth of a child always be considered a benefit to its parents and that, as a matter of law, this benefit be considered to offset any financial burdens. In rejecting this assertion, the Court concluded that the defendants' public policy argument was unpersuasive. The Court did not consider it appropriate to depart from the general rule that one who commits a tort assumes liability for all the damage proximately caused. This is especially important in this case since there is involved a constitutionally protected right of privacy. The Court also rejected claims (1) that to allow a recovery of damages would equate the birth of a child with injury to its parents; and (2) that damages in this case are too speculative to be permitted. In considering the first claim, the Court noted that raising a child is a costly enterprise and the love of parents for their children should not be a bar to their recovering damages after negligence has occurred. The trial court did not impose upon the defendants an absolute rule of complete responsibility for child-rearing expenses but rather employed a case-by-case balancing test which took into account benefits conferred upon the parents by having and raising the child. In considering the second claim, the Court rejected the assertion that the damages involved were impermissibly speculative. The Court found no distinction between establishing damages in a case such as this and in cases involving the concepts of wrongful death or loss of consortium in which the Court has previously allowed recovery. By unanimous decision, the Supreme Court upheld the trial court decision.

Discussion of these issues will continue next month.

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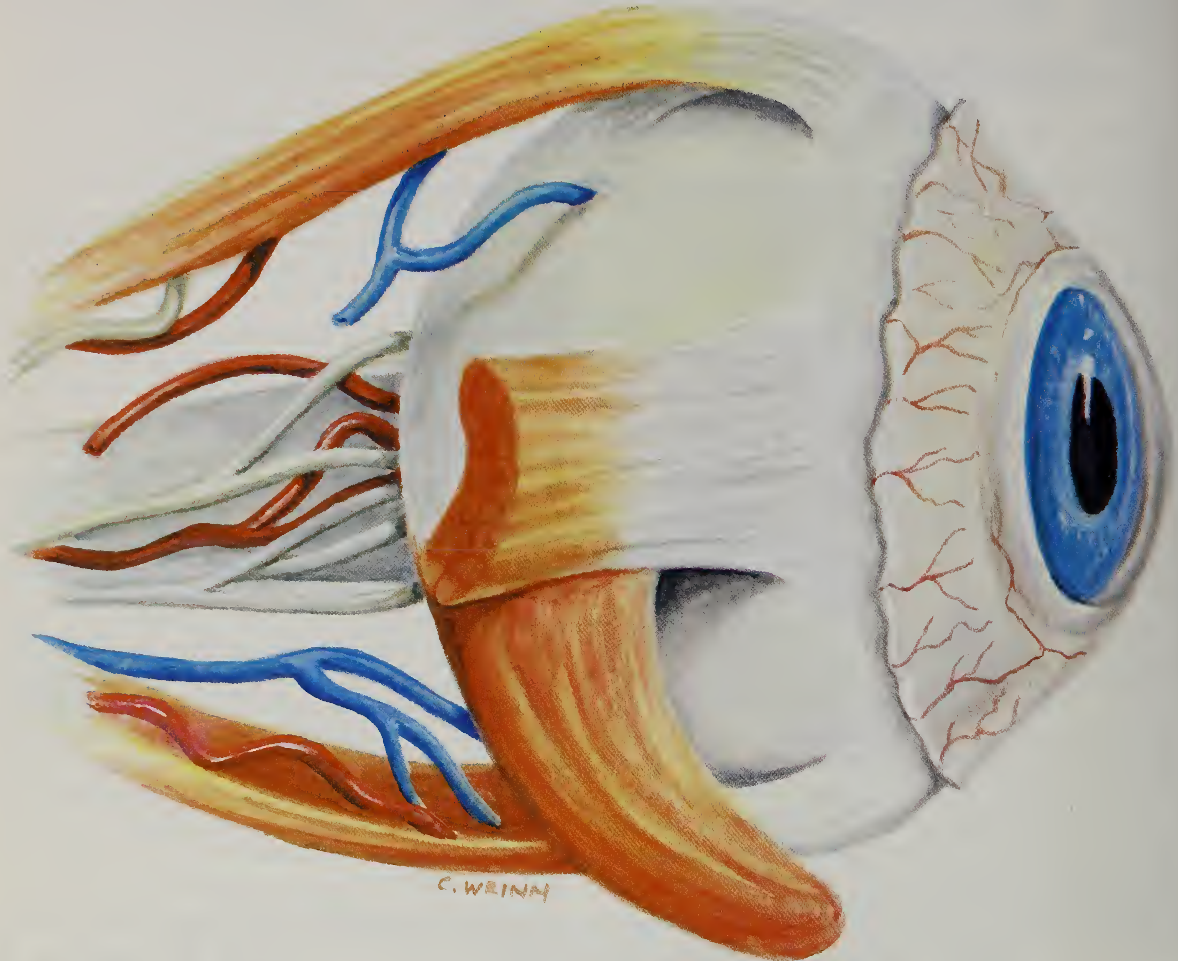
JOSEPH M. HEALEY, J.D., Associate Professor, Department of Community Medicine and Health Care, University of Connecticut, School of Medicine, Farmington.

Why do more than 2,700 Connecticut physicians participate in the Century Plan?



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Connecticut Medicine

The Journal of the Connecticut State Medical Society
160 St. Ronan Street, New Haven, CT 06511

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EDITORIAL

Cancer Education in Our Medical Schools

That cancer is a major health hazard for the country requires no elaboration. The impact of this disease on society in the number of lives lost every year, its growing incidence, financial costs, etc., has been well documented by statisticians and epidemiologists annually. Regardless of how accurately one calculates the impact of this disease in terms of stark numbers, the overall impact is unquestionably far greater. A health hazard of such magnitude understandably necessitates a comprehensive and cooperative effort on the part of all concerned to bring it under control.

It has been, and it remains, the most sacred duty of the health profession to assume the responsibility for healing the sick and waging society's battle against sickness. Cancer is a grave sickness, and the battle is yet to be won. As the search for the etiology, prevention and cure of cancer continues, steady gains against this devastating disease undoubtedly will be made. Since it is the duty of the medical profession to care for the sick, those who are engaged in training our future physicians also bear a heavy responsibility. The question—How should our medical schools teach their students relevant facts about cancer?—therefore assumes special significance. Unfortunately, the current method of undergraduate cancer teaching (or rather the lack of it) in the nation's medical schools seems surprisingly out of tune with reality. Metaphorically speaking, if the curricula of some of the nation's medical schools could be said to have an attitude toward students regarding cancer education, it could best be described as *laissez faire.* A survey of the curricula of several prominent Northeastern medical schools (and of the curricula of the Connecticut medical schools, in particular) reveals a striking lack of any integrated effort to teach cancer as a disease. An indictment of such magnitude against our medical schools requires some elaboration.

The curricula of our two Connecticut medical schools have been examined in depth. Like most medical schools in the country, the curriculum at the University of Connecticut and at Yale is divided into the basic and clinical sciences. Since the clinical science segment essentially comprises practical experience obtained through required and elective clerkships in different branches of medicine, it is not possible to obtain a quantitative or qualitative estimate of cancer teaching. It is assumed that these clerkships offer a reasonably broad exposure to the diverse types of diseases, including cancer. The basic science segment of the curriculum, on the other hand, is more structured (with detailed course outlines). This portion of the curriculum, therefore, lends itself to better analysis. Both schools follow the system method (i.e., Cardiology, Pulmonary, Pathobiology, etc.) of teaching. Since cancer is not considered a system, neither school devotes a course to it in the core curriculum. It is assumed that, since cancer involves every system, each course will include adequate cancer teaching. Indeed, this belief is held by the faculty members responsible for curriculum development and administration.

A detailed compilation of classroom teaching in the first two years at both schools, however, reveals two glaring deficiencies in undergraduate cancer teaching: one is the lack of integration of relevant instruction into a cohesive format; the other is the paucity of time devoted to the subject. In the absence of cancer as a subject or system, basic cancer-related instruction is offered essentially on a piecemeal basis. In addition, the review suggests approximately 16-25 contact hours of classroom teaching on cancer-related topics. Admittedly, it is possible that additional contact hours on cancer teaching may have been overlooked (hidden under tutorials or other headings). One, however, finds no evidence to indicate that the hidden contact hours are sufficient enough to increase the total number of contact hours significantly. The syllabus for each course, after all, is quite detailed and includes an hourly agenda. Even if additional contact hours have been

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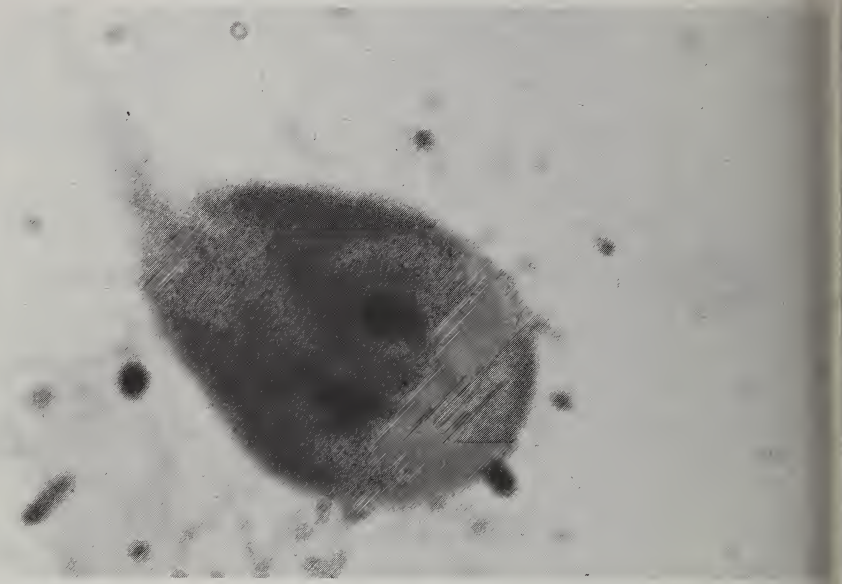

Giardia lamblia

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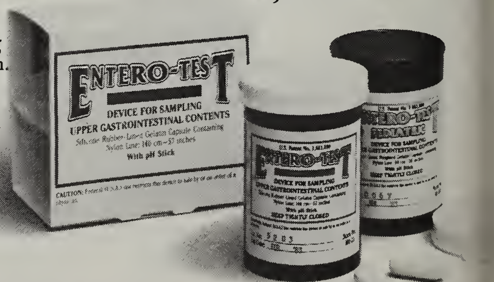

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overlooked, the total time spent on cancer teaching remains pitifully insignificant when compared to a course devoted entirely to, say, hematology or the history of medicine.

The total allocable time in a medical school curriculum is unquestionably precious. Priorities must be considered. But can a medical school afford to maintain a *laissez faire* attitude toward cancer education when cancer is the second leading cause of death in the nation? Can a medical school afford not to have an integrated cancer course in its core curriculum yet devote precious hours teaching a course on the history of medicine?

We believe that the time has come for our medical schools to undertake a critical review of their curricula with regard to cancer education for their students. We do not wish to suggest an arbitrary number of contact hours in the preclinical years, nor do we wish to argue for a separate course on a narrow territorial prerogative. We sincerely believe that for proper appreciation of cancer in the clinical years, our students need well-structured and integrated instruction on basic concepts in the preclinical years. This instruction is best delivered either as a separate course in the core curriculum or through a well-designed segment in an appropriate existing system, such as Pathobiology. Whatever the format, it is our conviction that by providing fundamental instruction on an important disease such as cancer, our medical schools will better serve the profession and our society at large.

Bijay Mukherji, M.D. and
University of Connecticut School of Medicine, Farmington, CT

John C. Marsh, M.D.
Yale University School of Medicine

SPECIAL NOTICES

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SCREEN YOUR MAGAZINES?

To the Editor: While reviewing some of the magazines that are found in doctors' offices, I was appalled to see the number of enticing and inviting advertisements offered by manufacturers of various cigarettes and brands of liquor. As providers of health care, we physicians should screen the magazines to which we subscribe and offer patients in our waiting rooms. We should make an effort to subscribe to magazines which do not accept such advertisements, especially for cigarettes. These advertisements obviously make a negative impact on our patients. The April 1982 *American Lung Association Bulletin* (Vol. 68, No. 3, p. 4) published a list of thirty-seven magazines which do not accept cigarette advertisements.

Although this may seem to be a trivial matter, I believe it is of some importance.

M. Ganeshananthan, M.D.
Director,
Cystic Fibrosis and Pediatric Pulmonology Center,
Saint Francis Hospital and Medical Center, Hartford, CT

A NOTE ON RETIREMENT

To the Editor: While there are many problems associated with retirement there is one problem above all others that has proven to be a major aggravation for me; the problem of storing, preserving and disposing of the medical records of my patients. In some forty years of practice over forty thousand folders and their contents had been accumulated and some sixty odd filing cabinets were bulging at their seams!

Tradition has it that all records over seven years old may be destroyed, but all that relate to "active" patients, however old, must be preserved. Simply sorting out these records into the two groups proved to be a herculean task! Furthermore, the records to be destroyed could not be picked up and recycled due to the fact that glue had been used to attach the type written name to the folder. As a consequence the disposable records were carted off to the refuse area, despite the fact that wiser counsel had advised that all the records be shredded lest they fall into the hands of people who might use them for a nefarious purpose.

The most annoying aspect of the record problem, however, has been the necessity of returning to the office area where the records are stored in order to carry or mail them to the physicians who have been requested to take over the care of my patients. I had thought that following the announcement of my retirement and the publication of the fact in our local newspapers that all requests would be largely taken care of in the first several months following my retirement. This has not been the case and even nine months later I am still going down two or three times weekly to handle the requests for transfer. I shudder to think of the poor widows who are faced with a comparable burden.

As I now reflect on this problem I wish that somehow or another I had arranged for a partner, an associate, or a group to take over my practice and its records, and thus have relieved me of my present chores. It is something for all solo practitioners to bear in mind for that inevitable day of retirement.

Charles E. Jacobson, Jr., M.D.
Manchester, CT

1982 ANNUAL MEETING HIGHLIGHTS

Andrew Canzonetti, M.D., of Waterbury, left, accepts the past Presidents plaque from Guy W. Van Syckle, M.D., of Danbury, Chairman of the Council of the Connecticut State Medical Society.

Performing her last official act, Clair Callan, M.D., retiring President of the Auxiliary to the CSMS, presents her year end report to the CSMS House of Delegates.

Andrew J. Canzonetti, M.D., of Waterbury, presents the inaugural plaque, emblematic of the change in leadership of the State Society, to Gioacchino S. Parrella, M.D., of Milford, the 144 President of the Connecticut State Medical Society.

Members of the Auxiliary to the Connecticut State Medical Society review their report to the CSMS House of Delegates on the opening day of the two day convention. Left to right: Mrs. Charlotte Sandler, newly elected President of the Auxiliary; Frances Ganguli, Chairperson of the AMA-ERF Committee and Dr. Clair Callan, Past President of the Auxiliary.

Receiving AMA-ERF checks to aid needy medical students in their respective institutions are: left, Robert U. Massey, M.D., Dean of the University of Connecticut School of Medicine and fourth from left, Howard Levitin, M.D., Dean of Students, Yale University School of Medicine. Presenting the awards are Mrs. Frances Ganguli, Chairperson, AMA-ERF and Andrew Canzonetti, M.D., Retiring President of the CSMS. Looking on is Mr. Lewis Caplen, Associate Dean for Community and Government Relations Yale University.

FROM THE EXECUTIVE DIRECTOR'S OFFICE

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SUMMARY OF PROCEEDINGS
HOUSE OF DELEGATES—ANNUAL MEETING
Hartford, Connecticut—May 26, 1982

Reports and Addresses

The House received reports, addresses and/or remarks from the President, the Secretary, the Treasurer, the Council, Delegates to AMA, Standing Committees, Representatives and Advisors, the President of the Auxiliary to CSMS, Chairman of the Board of Directors of COMPAC, and the delegates from the medical societies in Massachusetts, New Hampshire, Vermont and New Jersey.

Election of Officers and Others

The House voted to approve the published report of the Nominating Committee (the Council). Officers elected were:

President: Gioacchino S. Parrella, M.D., Milford
President-Elect: Daniel W. Doctor, M.D., Westport
Vice-President: William A. Whalen, Jr., M.D., Willimantic
Secretary: Norman A. Zlotsky, M.D., Rockville
Treasurer: John J. Mendillo, M.D., New Haven
Speaker of the House of Delegates: Joseph S. Sadowski, M.D., Hartford
Vice-Speaker: Edmund F. Hecklau, M.D., Greenwich
AMA Delegate: Guy W. Van Syckle, M.D., Danbury
Alternate AMA Delegate: W. Raymond James, M.D., Essex
AMA Delegate: Frank K. Abbot, M.D., Hartford
Alternate AMA Delegate: Stewart J. Petrie, M.D., Derby
Councilor-at-Large: Andrew J. Canzonetti, M.D., Waterbury

Presentations and Awards

Presentation to Retiring President: In recognition of his efforts as President of the Society during 1981-82, Andrew J. Canzonetti, M.D., Waterbury, received a gift and past President's pin. The presentations were made by Guy W. Van Syckle, Danbury, Chairman of the Council.

Presentation to Incoming President: A plaque with a gavel, symbolic of the office of President of the Society, was presented to Gioacchino S. Parrella, M.D., Milford, by the retiring President, Andrew J. Canzonetti, M.D., Waterbury.

AMA-ERF Grants to Medical Schools: Provided by the AMA Education and Research Foundation, unrestricted grants were awarded as follows: To the Yale University School of Medicine—$4,652.46. Accepting for Yale was Howard Levitin, M.D., Dean of Students, and Mr. Louis Kaplan, Associate Dean for Community and Government Relations. To the University of Connecticut School of Medicine—$2,481.50. Accepting for UConn was Robert U. Massey, M.D., Dean

Summary of Actions Taken

All items of business not calling for specific action by the House were accepted directly for filing. Items calling for action to be taken by the House were heard by Reference Committees and based on the reports of the Reference Committee, were acted on as follows:

1. **Principles for Voluntary Medical Peer Review:** VOTED to adopt the following Principles, as amended:
    a. Medical Peer Review is a voluntary physician directed effort to elevate and analyze medical care services delivered to patients wherever rendered and to assure the quality and appropriateness of these services.
    b. Peer Review shall be conducted only by physician sponsored organizations, regardless of the funding source.
    c. Peer Review is an educational process for physicians to assure quality medical services.
    d. Any Peer Review process must protect the confidentiality of medical information obtained and used in conducting peer review.

It was further VOTED to refer these Principles to the Council for implementation and to notify all agencies involved in medical peer review of this decision.

2. **Third Party Payors:**
VOTED to adopt the following resolution, as amended:

RESOLVED:

That the Connecticut State Medical Society vigorously support the proposition that third party payors reimburse for medical care equitably based on the appropriateness of the service rendered, appropriate guidelines and criteria, and not based on the facility in which medical care is delivered.

3. **Health Care Coalition:**

VOTED to adopt the following resolutions:

RESOLVED:

That the Connecticut State Medical Society endorse the formation of a state health care coalition of physicians, with representatives from business, hospitals, industry, insurance, labor, law, and other health care providers, to address common concerns about health care delivery.

RESOLVED:

That the Connecticut State Medical Society strongly support a health care coalition that includes meaningful physicians participation, so that primary emphasis is given to quality medical care, including availability and access, as well as recognizing the importance of cost effectiveness and cost containment.

RESOLVED:

That the Council of the Connecticut State Medical Society authorize the Committee on Statewide Medical Planning to arrange exploratory meetings with potential coalition participants to determine the feasibility of forming a state health care coalition.

RESOLVED:

That the Council of the Connecticut State Medical Society encourage the formation of county and local coalitions intended to achieve goals similar to those of the state coalition.

4. **Federal Trade Commission:**

VOTED to adopt the following resolutions, as amended:

RESOLVED:

That CSMS urge Congress to declare that the Federal Trade Commission did not, does not, and shall not have regulatory authority over state regulated professions.

RESOLVED:

That CSMS urge Congress to declare that the Federal Trade Commission did not, does not, and shall not have regulatory authority over state chartered non-profit professional societies and associations.

RESOLVED:

That CSMS support current congressional legislation restricting the jurisdiction of the Federal Trade Commission.

RESOLVED:

That CSMS urge Congress to reform the system of Administrative Law.

It was further VOTED that copies of these resolutions be sent to the American Medical Association and to Connecticut U.S. Senators and Representatives, including the preamble submitted with the resolutions in legally, acceptable terms.

5. **Hospital Agreements With the Federal Government—Physician Responsibility:**

Due to interpreted ambiguities in the wording of the resolution, it was VOTED to table the proposal.

6. **Ad Hoc Committee to Evaluate Connecticut Medicine:**

VOTED to approve the following recommendations made by the Ad Hoc Committee to Evaluate Connecticut Medicine:

a. To continue publication of *Connecticut Medicine* by the Society

b. That the Ad Hoc Committee's suggestions and ideas be referred to the Editorial Board of *Connecticut Medicine* and to the Executive Staff for investigation, evaluation, and appropriate recommendation to the Council for its considered action.

c. That the Ad Hoc Committee be discharged.

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IN MEMORIAM

APUZZO, ANTHONY A., Tufts School of Medicine, 1936. Dr. Apuzzo was an orthopedic surgeon in the Bridgeport area since 1942. He was a member of the Judiciary Committee of Fairfield County and was instrumental in promoting the St. Vincent's Medical Library Fund. He was a Lt. Commander in the U.S. Navy during World War II and a member of the Patterson Club of Fairfield. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Apuzzo died in Fairfield on March 27, 1982 at the age of 74.

AUERBACH, NEIL, University of Basel, 1961. Dr. Auerbach was an internist in the Fairfield area since 1969. He was a member of the American Diabetes Association, the Fairfield County Medical Association, and the Connecticut State Medical Society. Dr. Auerbach died April 25, 1982 at the age of 47.

BADNER, DONALD H., New York University, 1941. Dr. Badner practiced general surgery in the New Haven area since 1950. He was a World War II Veteran. He was a member of the New Haven County Medical Association and the Connecticut State Medical Society. Dr. Badner died April 6, 1982 at the age of 67.

BARBER, RICHARD R., University of Vermont Medical School, 1930. Dr. Barber was an obstetrician and gynecologist in the Fairfield area since 1947. He served in the U.S. Army from 1939 to 1942 and was discharged with the rank of major with the purple heart and four bronze stars. He practiced medicine in Stamford until his retirement in 1971, and then he moved to Tucson, where he lived for the past several years. He was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Barber died April 22, 1982 at the age of 76.

BREWSTER, WILLIAM B., JR., Harvard Medical School, 1942. Dr. Brewster was an ophthalmologist in the Hartford area since 1946. He was chief of ophthalmology at Hartford Hospital, 1970-1982, Associate Clinical Professor at the University of Connecticut Medical School. He was past president of the New England Ophthalmological Society and a member of Horace Wells and National Founders and Patriot's Societies. He was a member of the Hartford County Medical Association and the Connecticut State Medical Society. Dr. Brewster died April 23, 1982 at the age of 65.

DALLAS, MARION, Boston University School of Medicine, 1922. Dr. Dallas practiced obstetrics and family medicine in the New Haven area since 1924. During World War II she conducted a pre-natal clinic in Hamden and she was the first woman doctor to attend female inmates at the New Haven County Jail. She was a member of the New Haven County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Dallas died April 2, 1982 at the age of 92.

KING, RUSSELL P., New York Medical College, 1957. Dr. King was a general practitioner in the New Haven area since 1962. He served in the U.S. Air Force from 1958 to 1961. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. King died March 28, 1982 at the age of 50.

READE, EDWIN, Jefferson Medical College, 1916. Dr. Reade was a obstetrician in the Litchfield area since 1917. During World War I he served with the Rainbow Division as a 1st lieutenant. He practiced medicine in Watertown, CT for many years, retiring 12 years ago and moved to North Carolina. He was a member of the Litchfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Reade died in North Carolina on February 24, 1982 at the age of 90.

SPECTOR, NATHAN, Tufts, 1924. Dr. Spector was an obstetrician and gynecologist in the Windham area since 1929. He was an ardent play producer and Shakespearean scholar, and founded the Phoenix Theater Group which performed plays from Shakespeare to Gilbert and Sullivan. He practiced medicine in Willimantic until his retirement in 1977. He was a member of the Windham County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Spector died April 19, 1982 at the age of 81.

VANDERWERKER, EARL E., JR., Temple University, 1949. Dr. Van Derwerker was an orthopedic surgeon in the New Haven area since 1975. He served in the Army Medical Corps from 1951 to 1952. He was in private practice in Hartford from 1955 to 1969. He was coordinator for professional services at Milford Hospital from 1969 to 1974. He was appointed director of physical medicine at Waterbury Hospital in 1977, a position he held at the time of his death. He was a member of the Holland Society of New York, the Tribury Rotary Club, the New Haven County Medical Association and the Connecticut State Medical Society. Dr. Van Derwerker died March 30, 1982 at the age of 57.

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Physicians wishing to establish practice in Connecticut are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.

OPPORTUNITIES FOR PRACTICE

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Sept. '82. Age: 30. AB elig. MD, Stanley Medical College, Madras-1; Int. and Res., Griffin Hospital, Derby; Fellowship, New Britain General Hospital. Desires assoc. type practice. Write CSMS, FP/SC (to be forwarded).

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July '82. Age: 31. Nat'l bds. AB cert. MD, T.N.M.C., Bombay, India; Int., B.Y.L. Nair Hospital, Bombay, India; Res., Middlesex General Hospital; Fellowship, Wayne State University, Detroit, MI. Prefers medium to large size community and assoc. group or solo type practice. Write: Nilkanth B. Ranade, M.D., 170 Gale Blvd., #204, Melvindale, MI 48122.

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July '82. Age: 30. MD, Government Medical College, India; Res., Mount Carmel Mercy Hospital, Detroit, MI. Prefers all types of practices in medium to large size community. Write: Navtej Singh Rangi, M.D., 21472 Dequindre #201, Warren, MI 48091.

Oct. '82. Age: 34. AB elig. MD, Manial Central, The Philippines; Int., NY Medical, Res. and Fellowship, Kings County. Desires solo or group practice in medium size community. Write: Edward J. McDermott, M.D., 74-20 Ridge Blvd., Brooklyn, NY 11209.

July '82. Age: 32. Licensed in Connecticut. AB elig. MD, University of Rome, Italy; Int. and Res., Nassau Hospital, NY. Prefers solo or group practice in southwestern Connecticut. Write: Joseph A. Mackey, M.D., 260 First St., Mineola, NY 11501.

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OTOLARYNGOLOGY

July '82. Connecticut License. Age: 47. Presently in practice at Lenox Hill Hospital doing Head & Neck Surgery Fellowship. Canadian Flex:LMCC. AB elig. MD, Queens College, St. Andrews University, Dundee, Scotland; Int., Ottawa General Hospital; Res., St. Luke's Medical Center, Columbia University, NY. Prefers assoc. or institutional practice. Write: CSMS/Otol-FHPD.

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Extragonadal Germ Cell Cancer

A Case Presentation

MARY TODD, D.O., ED CADMAN, M.D., LEONARD FARBER, M.D.
AND SAMUEL BOBROW, M.D.

In the past few years the treatment of metastatic germ cell cancer with combined chemotherapy has greatly improved the prognosis of patients with this disease.[1] Seventy percent of patients with disseminated testicular cancer receiving vinblastine, bleomycin and cisplatin have achieved complete remission with another 15% achieving a disease-free status after surgical removal of residual disease.[2] Recently there have been two articles describing the difficulty of diagnosing extragonadal germ cell carcinoma[3,4] and the importance of this diagnosis since, like primary testicular carcinoma, it also responds to the appropriate treatment.[5]

A 57-year-old white male presented in September 1981 with a complaint of intermittent chest and left shoulder discomfort for the previous year but recently greatly increased in severity. Concurrent with the increasing pain he noted a 10 lb. weight loss. Physical examination revealed clinically normal testes. A chest x-ray revealed a mass adjacent to the left upper lobe. Computerized x-ray tomography of the chest also demonstrated the presence of this mass. An open lung biopsy confirmed this mass to be a germ cell tumor, most suggestive of embryonal carcinoma. Beta-HCG was 7 mIμ/ml initially but subsequently rose to 9 (normal <7). Alpha-fetoprotein was undetectable. A bone scan had increased uptake in the skull area. An abdominal computerized x-ray was negative for retroperitoneal nodes. The patient has been started on chemotherapy as outlined by Einhorn and Donohue.[2]

That extragonadal germ cell tumors arise de novo was debated in the past but has become accepted over the last decade. These cells have often been described as being histologically identical to those originating in the testes.[6] Recently it has been suggested that extragonadal germ cell cancer may not be as rare as previously assumed; contributing to this may be an error in histological diagnosis. Fox[3] and Richardson[4] observed a total of 17 patients initially diagnosed as undifferentiated or poorly differentiated carcinomas who were later believed to have germ cell carcinoma.

In the larger series of extragonadal germ cell cancer reviewed by Martini,[7] there were six patients out of 30 who were originally diagnosed as other than germ cell cancer. The original histiologic diagnosis included giant cell carcinoma, epidermoid carcinoma, anaplastic carcinoma, thymic carcinoma (of which there were two) and mesotheliona. In another series by Cox[8] two of 24 patients were also originally incorrectly diagnosed.

Whereas histology may not always be as helpful as previously thought, there are some common clinical presentations that emerge in the larger series of Martini,[7] Cox,[8] and Recondo,[9] as well as the newer series of Fox[3] and Richardson.[4] Chest pain, pleuritic, or substernal in nature, often accompanied with radiation to the shoulder or arm is the most frequent symptom. The average age of the patients was the mid 20's; the oldest patient was 61 years old;[4] the youngest was 14 years old.[9] Tumor markers were occasionally but not always helpful. Not all patients are men: eight women out of 30 patients in Martini's series, two out of 24 in Cox's and one out of 20 in Richardson's group were female.

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Reprint requests to: Room I226, Yale University School of Medicine, 333 Cedar St., New Haven, CT 06510 (Dr. Cadman).

This paper was done while on rotation at The Hospital of St. Raphael as part of the fellowship program from Yale University, Department of Medicine, Medical Oncology Section.

Our patient presented with what might be considered a classical presentation in view of the previous remarks: he had pleuritic type chest pain with radiation to his shoulder. The diagnosis in this patient was made on the initial histiologic finding.

Not all patients are so fortunate as to have a correct histiologic diagnosis and therefore receive appropriate therapy. In any patient, particularly male, presenting with chest pain or pulmonary symptoms, a midline mass, and within the ages of 20 to 60 years, physicians should consider the diagnosis of germ cell carcinoma. Elevated β-HCG or alpha-fetoprotein may contribute to the diagnosis. Immunoperoxidase staining of paraffin-blocked sections for intracellular β-HCG and alpha-fetoprotein has been extremely useful even when serum levels were normal.[4] This test should perhaps be utilized more frequently with specimens from patients with characteristic clinical features, especially in those patients in whom the histological diagnosis remains in doubt.

As our diagnostic abilities continue to increase by this and other methods it may be that the diagnosis of extragonadal germ cell carcinoma will be made more frequently. In the meantime, a high suspicion of the disease should be maintained in patients with a "classical" presentation but unclear histology. In such cases the slides should be sent to a reference pathologist for classification. When the diagnosis is that of a relatively untreatable condition, consideration should be given to treatment as an extragonadal germ cell carcinoma.

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Out-Patient Knee Cartilage Surgery: A Review of 200 Consecutive Arthroscopic Partial Meniscectomies

ROBERT L. FISHER, M.D. AND GORDON A. ZIMMERMANN, M.D.

ABSTRACT—Two hundred consecutive arthroscopic partial meniscectomies in outpatients with knee cartilage tears resulted in a rapid return of knee function. Sixty-five percent of patients returned to work or school in less than one week. Eighty-four percent of patients responding to follow-up questioning were satisfied, 10% dissatisfied and 6% indeterminant with their result.

Arthroscopy has become a well established procedure for diagnosis of intra-articular knee disorders.[1-5] Recently, arthroscopic techniques have been applied to the surgical correction of meniscal tears and other abnormalities.[6,7] While arthroscopic knee surgery has received widespread publicity in the lay press,[8-10] there have been only a few published clinical studies.[11-13] All reports would indicate that arthroscopic surgery of meniscal lesions produces good short term results without the significant morbidity of the traditional arthrotomy. The present study reviews the authors' experience with arthroscopic partial meniscectomy performed in outpatients at the Hartford Surgical Center and Hartford Hospital Ambulatory Care Center.

Material and Methods

Two hundred consecutive arthroscopic partial menis-

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cectomies in 197 patients (3 bilateral) were carried out between March 1979 and July 1981. During the same period, 33 additional arthroscopic meniscectomies were performed on 11 patients admitted to the Hospital for advanced age or medical problems and on 22 patients with significant arthritic changes of joint surfaces. Four other patients, early in our experience, had attempted arthroscopic meniscectomy but required arthrotomy for completion of the surgery. There were 160 male and 37 female patients in the study group (3 bilateral meniscectomies occurred in males). The mean age was 32.9 years with a range from 6 to 59 years.

All of the operations were carried out by the authors (R.L.F.—139 knees and G.A.Z.—61 knees) using essentially the same procedure and surgical technique. General anesthesia and tourniquet were employed in all cases. Small skin punctures in the antero-lateral, antero-medial and patellar tendon areas were utilized. The arthroscope was inserted into one portal and by "triangulation," cutting and grasping instruments were passed through one or more additional portals. The surgical objective was to remove the mobile portion of meniscus and to leave a stable rim (Figure 1). Though initially scheduled for 2 hours, the operating time with additional experience was routinely under 45 minutes. Patients were generally alert and able to walk from the recovery room in about an hour after surgery. All were permitted immediate ambulation and weight bearing. Most had recovered full knee function when checked two weeks post-operatively.

A questionnaire was mailed to all patients in the study to ascertain satisfaction with the operation, reasons, if any, for dissatisfaction and length of time after surgery until return to work and sports. Questionnaires were returned concerning 108 knees and information about an additional 56 knees was obtained from phone calls by secretary. Follow-up data were, therefore, available on 164 knees (82%) with a period ranging from three months to 29 months (mean 10 months). The patients responding to follow-up questions did not differ from the group as a whole with respect to age, sex or knee abnormality. The knee pathology encountered is presented in Table 1. There was a predominance of medial meniscal pathology. The most common tear patterns were flap (Figure 2) and bucket handle (Figure 3). Several patients had tears of both menisci. Chondromalacia of joint surfaces and tearing of the anterior cruciate ligament were the most common associated abnormalities.

Recovery from surgery was dramatic such that most patients had, clinically full strength and mobility when checked two weeks post-operatively. The days out of work or school after surgery was reported by 144 patients. Thirty-five (24%) lost no time, 50 (35%) returned in less than 3 days, 8 (6%) in less than a week, 19 (13%) in one week, 17 (12%) in 1 to 3 weeks and only 15 (10%) over 3 weeks. Eighty-four percent (137) of patients responding to the follow-up questions were satisfied with the results of surgery. Ten percent (17) were dissatisfied while 6% (10) did not respond or had mixed feelings. The dissatisfied patients complained of pain (3), pain and swelling (9), swelling (3), snapping (1) and a cyst (1). Three of these patients were on compensation and eight had associated pathology of the joint surfaces or cruciate ligament. A relatively high percentage had lateral meniscus pathology but in other respects—age, sex, length of follow-up, surgeon—they did not differ from the remainder of the study patients. There were no significant complications of the surgery. Mild abrasion of the articular cartilage by instruments occurred but was less common as experience was gained. Thirteen patients (6.5%) had repeat arthro-

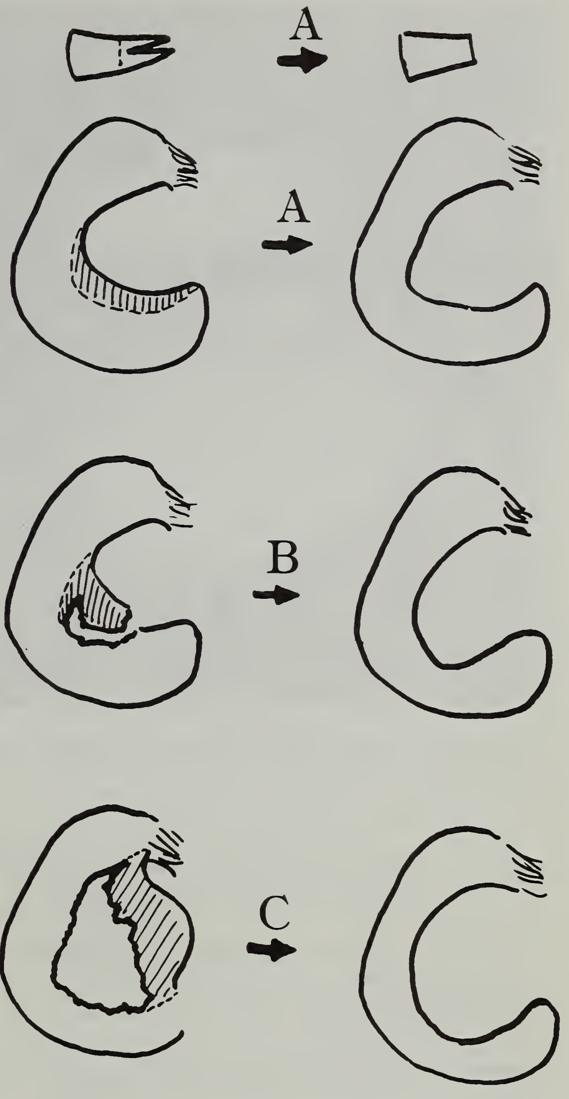

Figure 1
Appearance of meniscus at operation (left) and after partial resection (right) with horizontal cleavage (A), flap (B) and bucket handle (C) tearing.

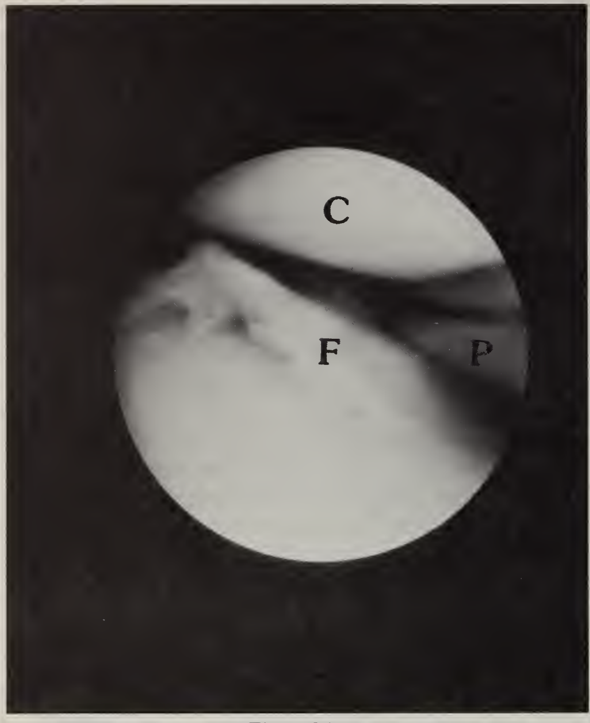

Figure 2A
A meniscal flap (F) pulled forward under femoral condyle (C) by hook probe (P).

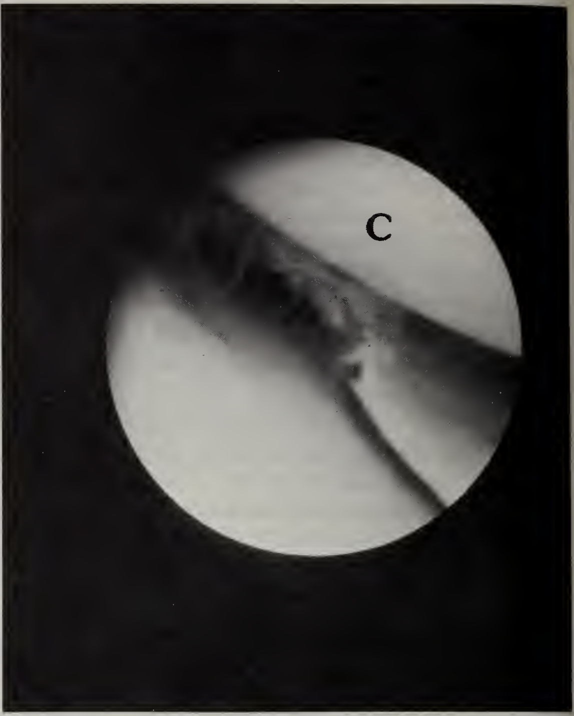

Figure 2B
Appearance of meniscus after resection of flap.

Table 1
KNEE PATHOLOGY

	Patient Group				
Abnormality	*Satisfied (137)*	*Dissatisfied (17)*	*Indeterminent (10)*	*Lost to Follow-Up (36)*	*All Knees (200)*
Medial Meniscus Tear	117	11	8	30	166
Bucket Handle	41	3	1	8	53
Posterior Bucket Handle	18	2	3	2	25
Flap	53	4	4	18	79
Other	5	2	0	2	9
Lateral Meniscus Tear	26	7	4	8	45
Bucket Handle	7	2	0	2	11
Posterior Bucket Handle	4	2	0	0	6
Flap	4	2	0	2	8
Cleavage	5	0	2	0	7
Discoid	1	1	0	0	2
Other	5	0	2	4	11
Chondromalacia Patella	8	1	3	3	15
Chondromalacia Femoral Condyle	21	6	2	0	29
Anterior Cruciate Ligament Rupture	14	2	3	2	21
Other Pathology	1	1	0	0	2

scopies due to persistent symptoms. In seven of these, no significant pathology was encountered, in three recurrent or missed flap tears were surgically treated, in two anterior cruciate ligament insufficiency was confirmed and in one a retained meniscal fragment was excised. The rearthroscoped group included five satisfied, three dissatisfied, three indeterminant and two unavailable at time of follow-up examination.

Discussion

This study confirms that out-patient arthroscopic surgery can effectively relieve symptoms of torn menisci in a high percentage of patients with very little post-operative morbidity. The procedure is technically difficult and should be carried out only by those surgeons experienced in arthroscopic techniques. Practiced in an out-patient setting, the hospital or

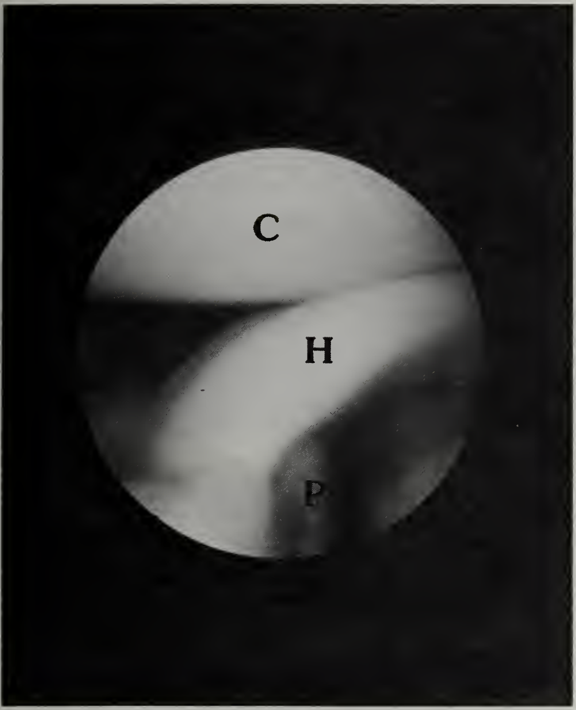

Figure 3
"Bucket handle" portion of medial meniscus (H) extending along intercondylar surface of femoral condyle (C). Probe (P) lies at point of proposed anterior division as in Figure 1C.

surgicenter cost of arthroscopic surgery is approximately one-half of that of an arthrotomy requiring four days of hospitalization. Economically, arthroscopic surgery offers the greatest advantage in rapid return to work or school. Sixty-five percent of our patients returned to these activities in less than one week compared to average return to work time after arthrotomy of up to three months.[12,14]

The long range results of arthroscopic partial meniscectomy cannot be determined from this or previous studies. It has been shown that the menisci are important in the stability and load transmission of the knee joint.[15-17] In experimental animals, degenerative change of the articular cartilage occurs after removal of the menisci.[18-20] The severity of this change has been found proportional to the amount of meniscal tissue removed.[18,20] Long term clinical studies have conclusively demonstrated that degenerative changes occur after meniscectomy.[21-23] While not striking, the long term clinical and radiologic effects of partial meniscectomy appear preferable to those of total meniscectomy following arthrotomy.[24-27]

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Left Atrial Thrombosis in a Patient with a Mitral Bioprosthesis: Non-embolic Complications

ABRAHAM BORNSTEIN, M.D. AND STEPHEN SANDRONI, M.D.

ABSTRACT—We present a patient in whom left atrial thrombosis occurred after mitral valve replacement with a bioprosthesis. Hemodynamic and pathologic studies document the presence of severe and irreversible pulmonary hypertension caused in part by obstruction of the pulmonary veins with laminated thrombus. The contributing causes, diagnosis, and implications of this lethal non-embolic complication of left atrial thrombosis are discussed.

Case Report

A 22 year old woman presented with shortness of breath, productive cough, and fever.

She was born in Colombia and had rheumatic fever at age seven. At age 17, she developed dyspnea with mild exertion, shortness of breath, and a dry cough. Her symptoms progressed. At age twenty-one, cardiac catheterization documented mitral stenosis, mitral insufficiency, and mild pulmonary hypertension. She underwent surgery for mitral valve replacement with a glutaraldehyde-treated bioprosthesis. The post-operative course was uneventful except for development of a gram-negative (Klebsiella) pneumonia which resolved with antibiotic therapy. She had no cardiac symptoms after surgery, and was not anticoagulated.

She emigrated to the United States one year after surgery. Three months later, she noted dyspnea on exertion, weakness, and bilateral pedal edema. These symptoms progressed over several weeks. The patient then noted abrupt onset of high fever and a productive cough. She became severely short of breath and presented to the hospital.

Examination revealed a thin febrile woman in respiratory distress. There were bilateral pleural effusions, cardiomegaly, and a harsh holosystolic murmur along the lower left sternal border. Hepatomegaly was present, and there was pitting pedal edema. Chest x-ray confirmed the presence of the effusions and cardiomegaly. The electrocardiogram showed sinus tachycardia, axis of one hundred degrees, and a p-mitrale pattern. A sputum gram stain showed many neutrophils and many gram-positive diplococci.

She was treated with penicillin and furosemide. High fever persisted, but an exhaustive search for a source was unproductive. M-mode and 2 dimensional echocardiography revealed dilated left atrium, dilated and hypertrophied right ventricle. Neither study demonstrated vegetations. The patient was treated empirically for culture-negative endocarditis. Fever persisted, and she developed atrial fibrillation with worsening of her congestive failure and was then digitalized. She was also anticoagulated, given quinidine, and cardioverted with resumption of sinus rhythm. Addition of vasodilators improved her condition slightly, and her fever gradually declined after antibiotics were discontinued.

Left and right heart catheterization was performed. The data were consistent with severe mitral stenosis and severe pulmonary hypertension (see Figure 1). Mitral valve replacement was scheduled. Efforts to normalize the patient's coagulation status preoperatively were difficult, and deficiency of hepatic-produced coagulation factors was documented.

HEMODYNAMIC DATA

	RA	RV	PA	PCWP	V wave	LV
3/79	6mm	43/4	43/26	18mm	34mm	75/5
9/80	25mm	95/34	95/70	38mm	no V wave	110/25

9/80 gradient across mitral valve = 25mm
mitral valve orifice = 0.5 cm^2
pulmonary vascular resistance 1000 $dyne/sec/cm^{-5}$

Figure 1

At the time of surgery, extensive left atrial thrombosis was found. The thrombus seemed to originate at the rim of the valve, covered most of the wall of the left atrium, and extended into the pulmonary veins. The bioprosthesis appeared otherwise to be structurally and functionally normal (see Figure 2). Some thrombus was also noted on its ventricular surface. The valve was replaced with a Bjork-Shiley valve and tricuspid annuloplasty with a Carpentier ring in order to correct a dilated valve annulus. Pulmonary hypertension persisted postoperatively, and pulmonary vasodilatation was partially achieved with the use of tolazoline. The slight reduction in pulmonary hypertension could not be sustained, however, and her cardiac output declined. She deteriorated and died after cardiopulmonary arrest on the third day after surgery.

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Reprint requests to: Stamford Hospital, Department of Cardiology, Shelburne Road & West Broad, Stamford, CT 06902 (Dr. Bornstein).

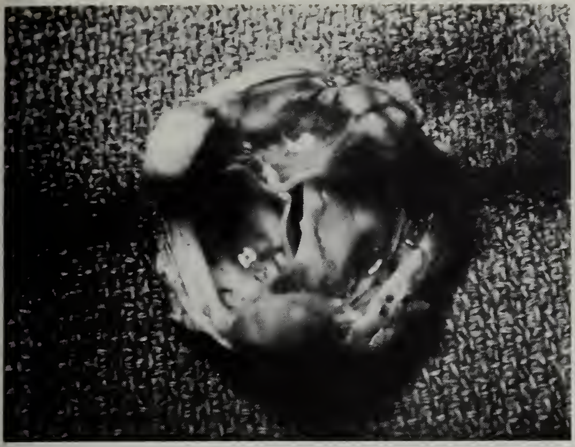

Figure 2A

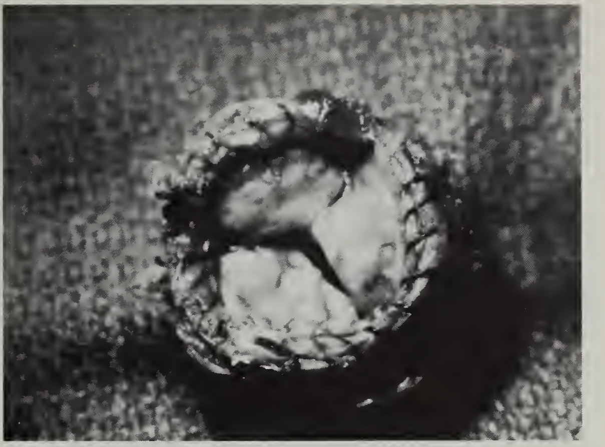

Figure 2B

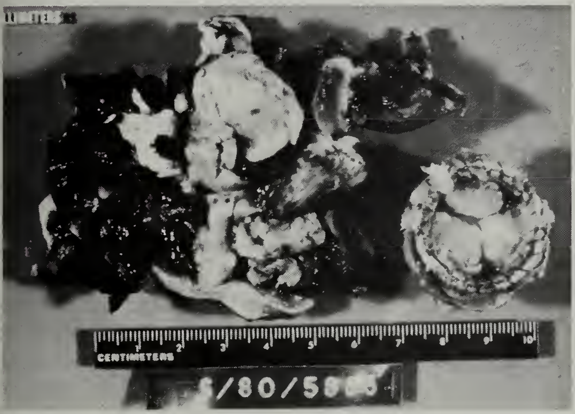

Figure 3

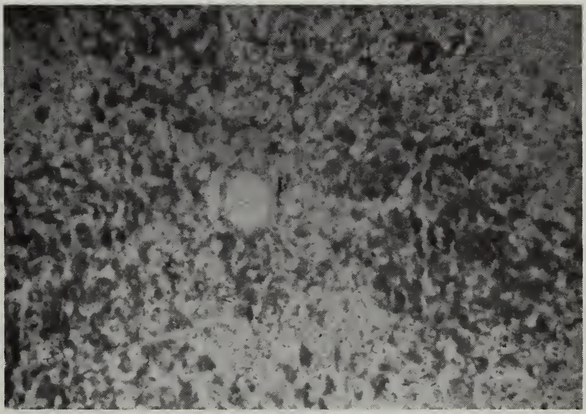

Figure 4

Pathology

Surgical specimens revealed fresh thrombus overlying organized lamina of thrombus in the left atrium (see Figure 3). The organized lamina of thrombus extended into all the pulmonary veins.

Postmortem studies demonstrated chronic congestive changes in the lungs, with right lower lobe consolidation.

The heart showed biventricular enlargement. The left atrium was not enlarged.

The liver showed severe centrilobular hemorrhagic necrosis (see Figure 4).

Discussion

Thrombosis in Medically Managed Patients

Medically managed patients with mitral valve disease may develop left atrial thrombosis. The thrombi most often occur in the setting of long-standing mitral stenosis, a dilated left atrium, atrial fibrillation, and congestive failure. In patients with atrial fibrillation, the incidence of left atrial thrombi has been estimated to be from 9 to 20%.[1-2] Thrombosis is rare in patients who are not fibrillating, although it has been documented.[3-4] The thrombi typically originate in and are limited to the left atrial appendage, but have been noted to extend to involve the left atrial cavity as well. The majority of patients with documented left atrial thrombosis have not had embolic symptoms.[2]

Thrombosis in Patients Who Have Received a Mitral Bioprosthesis

The course and prognosis of patients who have received a mitral valve bioprosthesis are not easily assessed. Continuous evolution of the valves themselves, surgical techniques, and reaction to complications have resulted in the splintering of the population into many sub-groups. The key question of valve durability, for example, will obviously require further years of observation. Certain trends regarding thromboembolic events have emerged, however.

Approximately 40,000 patients have received bioprosthetic valves in the United States. About 12,000 new bioprostheses are implanted each year, accounting for one half of all valve replacements.[7] Results from several large series suggest that the rate of thromboembolic events is about 5½% a year following mitral valve replacement,[5-6] although rates as low as 3% are reported.[7] Pathologic correlation to date involves only a very limited number of cases, so the precise incidence of left atrial thrombosis and its relationship to observed embolic events is uncertain. As opposed to medically managed cases, the left atrial thrombi generally originate at the sewing ring of the valve, and propagate in a retrograde fashion back into the left atrial cavity. Temporally, two groups are described: Thrombosis occurring within the first three months being the early group and thrombosis occurring after three months being the late group. It takes two to three months for endothelialization of the valve stent to take place, and once this has happened there is a reduced incidence of thromboembolism, as low as 1% a year.[7] Once this was appreciated and anticoagulation was more routinely employed in the early period, most of the observed thromboembolic events in the early period were noted to be associated with low output syndrome in the perioperative period, with presumed left atrial stasis and often with associated coagulopathy.[7-8] The key role of the liver in maintaining a balanced coagulation state has been well reviewed;[9] a low cardiac output syndrome with resultant hepatic damage could lead to alterations in the production and quality of clotting factors, altered plasminogen and antithrombin activity, and profound changes in the clearance of activated factors by the hepatic reticuloendothelial cells. In the early thrombosis group, the bioprosthetic valve is usually found to have no evidence of degeneration.

Left atrial thrombosis in the late group has been strongly correlated with atrial fibrillation or changing rhythms,[5,6,11] and some authors have concluded that thromboembolism in this group is more a function of left atrial stasis than a characteristic of the valve itself.[7] The actual incidence of left atrial thrombosis is unknown since its discovery usually depends on a work-up triggered by the presence of embolic phenomena in fibrillating patients. As many as 28% of patients with embolic events in one series were not in atrial fibrillation, however,[6] and left atrial thrombus has been reported in the absence of either fibrillation or embolic events.[10] It is possible that (as in medically managed patients) the majority of patients with left atrial thrombosis in the late group have not had embolic symptoms.

Pulmonary Hypertension Secondary to Mitral Valve Obstructive Disease and/or Obstructive Atrial Thrombosis

The degree of pulmonary hypertension in our patient was in systemic range and disproportionately elevated, probably due to the greatly increased pulmonary vascular resistance. This occurs only in approximately 10% of patients requiring surgery for mitral valve obstructive disease. Anatomic changes, as well as vasoconstrictive abnormalities, contribute to the large increase in pressure across the pulmonary vascular bed. We feel that the degree of left atrial clot ultimately creating pulmonary venous obstruction contributed dearly to the patient's elevated pulmonary vascular resistance.

It was felt, however, that the patient had developed this degree of pulmonary hypertension and elevated pulmonary vascular resistance only over the last year, and therefore there was a good chance that the pulmonary pressures and pulmonary vascular resistance were reversible. Although it is usually accepted that the passive elevation of pulmonary pressure could be corrected by decompression of the left atrium and/or mitral valve replacement, doubt has always persisted about the reversibility of pulmonary hypertension associated with the markedly elevated pulmonary vascular resistance. Braunwald et al[16] studied the regression of pulmonary hypertension in 31 patients who were recatheterized an average of 7.7 months after mitral valve replacement. He noted that the greatest percent reduction in pulmonary pressure and resistance occurred in patients with the most elevated values preoperatively. On the other hand, another report on the long-term results after mitral valve replacement concluded that a pulmonary arterial systolic pressure in excess of 110 mHg. is a contraindication to surgery because of the high operative mortality and poor long-term results.

The most recent study by Zenner et al[17] supports the conclusion that even extreme levels of pulmonary hypertension and increased pulmonary vascular resistance due to acquired mitral valve disease are reversible if the left atrium can be adequately decompressed. This response contrasts sharply with the experience in congenital heart disease in which severe pulmonary vascular resistance is often the one feature that precludes successful surgical repair. The report by Zenner et al indicates that systemic levels of pressure and resistance in the pulmonary circuit due to mitral valve obstructive disease regressed dramatically if surgery adequately decompressed the left atrium. Postoperatively, pulmonary vascular resistance in their patients decreased on an average from 1,153 to 305 dynes seconds CM^{-5} while cardiac index rose from 1.9 to 2.5 liters per meter^2 with an associated decrease in pulmonary artery systolic pressure dropping from 115 preoperatively to 50 mHg. postoperatively. The degree of hemodynamic improvement was influenced by the level of left atrial pressure and maintenance of normal sinus rhythm postoperatively. In their study, of the 58 patients with pulmonary vascular resistance greater than 600 dynes seconds CM^{-5}, the operative mortality was 26% among patients with preoperative pulmonary arterial pressures less than 100 mHg. For patients with a pulmonary arterial pressure greater than 100 mHg., the operative mortality was only 13%.

It is interesting to note that the initial hemodynamic decompensation which our patient faced postoperatively was found to be due to continued elevation of the pulmonary artery pressure and pulmonary vascular resistance with subsequent right ventricular failure. The infusion of tolazaline was utilized in an attempt to relieve whatever reflex pulmonary vasoconstriction may have been present. This was initially successful. However, over the subsequent 36 hours, the patient no longer responded well to the medication and finally died in a low cardiac output state, presumed secondary to irreversible pulmonary hypertension and elevated pulmonary vascular resistance.

When pulmonary hypertension has been present for many years, permanent obliterative changes in the pulmonary vascular bed occur and reactive vasoconstriction is less significant. Our case is most unusual in that the patient developed this degree of pulmonary vascular disease, ultimately irreversible, in the course of one year. This leads us to believe that the patient's demise was related not only to possible obstructive mitral valve disease but also to mechanical obstruction related to the formation of extensive left atrial clot, ultimately occluding the pulmonary veins.

Thrombogenic Factors

What are the likely causes for possible initiation of thrombosis in the large subset of late, non-fibrillating patients? Residual glutaraldehyde from the processing of the valves has been implicated experimentally as a cause of thrombosis,[7] although improvements in technique have reduced the likelihood of this. Valve deterioration is now a well characterized phenomenon, and current analysis leads to an expected re-operation rate of 30% at ten years.[14] This process, occurring at a variable rate, involves gradual loss of the collagen structure of the valve, with calcification, cellular infiltration, and fibrinoid deposits.[15] These changes can, in theory, lead to a more thrombogenic valve surface.

Diagnosis of Left Atrial Thrombosis

Diagnosis of left atrial thrombosis can be made in several ways. Parker et al in 1965 reported a high rate of success in the preoperative identification of left atrial thrombosis using the method of pulmonary artery angiocardiography.[2] More recently, a number of sources have reported the very strong association of left atrial neovascularity with left atrial thrombus, observed during selective coronary angiography.[3-4] These reports do not refer to patients who have already undergone valve replacement, but they are important in that they stress the frequent failure of M-mode echocardiography to detect thrombosis. Although the diagnostic potential of both M-mode and Real-time echocardiography in the diagnosis of left atrial masses has been demonstrated, the results have been limited in the diagnosis of left atrial thrombus. This discrepancy is probably related to the type of motion of an intra-atrial myxoma as opposed to that of a mural thrombus where the only motion would be imparted by the movement of the atrial walls.

Our patient had undergone both M-mode and two-dimensional echocardiography, neither of which definitively demonstrated evidence for intra-atrial thrombus, despite the fact that the thrombus was massive and involved the entire left atrial cavity. As demonstrated in the postoperative specimen, the thrombus in this patient was layered and adherent to the posterior left atrial wall and, as such, probably represented a technical problem in differentiating the mass from signals emanating from the left atrial wall itself.

M-mode echocardiography has been reported to demonstrate or suggest left atrial thrombosis in some patients with prosthetic and bioprosthetic mitral valves,[10-11] but it cannot be considered a reliable method. Serial M-mode studies may be quite useful in following patients, however, in that they may demonstrate altered valve function and hemodynamics which may be related to thrombus formation. Accumulated experience with Real-time echocardiography may ultimately demonstrate further value for its use in diagnosing left atrial thrombosis.

Conclusion

The course of the patient we have presented suggests that long-standing left atrial thrombis can cause several serious complications in addition to the risk of embolization, and the presence of one or more of these complications can significantly reduce the patient's ability to undergo reoperation. We hypothesize that after originating at the valve ring, the thrombus propagated in a retrograde fashion and occluded the pulmonary veins. The occlusion of the pulmonary veins, occurring over a period of time, contributes to the profound and irreversible pulmonary hypertension and its concomitant right-sided failure. Although the bioprosthetic valve leaflets appeared normal when removed at surgery, the extensive thrombus found in the left atrium and around the valve ring effectively reduced the valve orifice to provide a functionally critical mitral stenosis. Thrombus noted on the ventricular side of the valve may have limited leaflet excursion. The mitral stenosis, in turn, may have resulted in altered left atrial hemodynamics and the ultimate development of atrial fibrillation. The right-sided failure and functional mitral stenosis contributed to the development of a low cardiac output syndrome. Severe hepatic insufficiency secondary to cardiac cirrhosis and the low output syndrome occurred, and as noted above, may well have accelerated thrombus formation. While other factors may have contributed to this patient's deterioration, it is apparent that conditions were present which permitted a vicious cycle of thrombogenesis to occur over a period of time.

With a large number of patients now possessing bioprosthetic valves, and with the projected need for reoperation in many of them, it is important that physicians be aware of the possibility of left atrial thrombosis even in the absence of embolic events. Further study is needed to delineate the actual incidence of this problem and to find a reliable method for detection of thrombus during its clinically silent initial presentation.

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Evaluation of Fine Needle Aspiration of Breast Masses

ROBERT W. PAINTER, M.D. AND RICHARD D. OTIS, M.D.

ABSTRACT—In order to determine if fine needle aspiration of solid breast masses would aid in the diagnosis and management of breast cancer, a retrospective study of 92 needle aspirations was performed. Eleven aspirations were reported as unsatisfactory and one was lost. In the remaining 80 cases, 36 with benign physical findings and negative needle aspiration were not operated upon. Of the 44 operative cases needle aspiration was reported as positive in 20 of 25 cases proven to have carcinoma (80%).

A correlation of the clinical impression of the breast mass with the needle biopsy report revealed agreement in the majority of cases. There was one false positive and five false negative aspiration reports. Three patients in whom the breast mass was felt to be benign on clinical examination and needle biopsy was reported as positive were found at surgery to have cancer.

It is concluded that fine needle aspiration of solid breast masses is a safe, simple, rapid procedure and a valuable addition to careful physical examination and mammography in the diagnostic office work up of patients with solid breast masses.

The management of patients with breast masses seen in office practice may be a challenging and difficult problem. Fortunately many of these masses turn out to

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be cysts which can be easily aspirated and evacuated eliminating surgical biopsy. However, patients with solid breast masses present a problem in clinical management as a decision must be made whether they are to be followed or have a surgical biopsy performed.

It has been recommended[1-3] that fine needle aspiration would aid in the diagnosis and management of patients with solid breast masses. In order to determine if this method was of value in the management of such patients seen in a private office practice, a restrospective review of 92 aspirations was performed.

Materials & Methods

Aspiration of the solid breast mass is performed using a disposable 3cc. syringe with a 22 gauge needle. No local anesthesia is necessary. Holding the breast mass with one hand the needle is introduced through the skin down to the mass. The needle should be introduced parallel to the chest wall to eliminate any danger of pleural puncture. After entering the mass, suction is applied by aspirating and producing negative pressure in the syringe. This can effectively be done with one hand and no special apparatus is necessary. The needle is pushed through the mass several times with continuous aspiration and suction on the syringe. Before the needle is removed, aspiration is discontinued so that the material caught in the needle will not be sucked back into the syringe. After the needle is withdrawn, the material is ejected onto a frosted slide and spread over the slide with a needle point. It is immediately placed in a fixative of 95% denatured alcohol and sent to the cytology laboratory where it is stained and read by a cytopathologist. The slides are classified as unsatisfactory or graded from I-V depending upon the possibility of malignancy. Classes I & II are considered benign, Class III is indeterminate and Class IV & V are diagnosed as carcinoma. This is accompanied by a brief narrative report as to whether the cytopathologist believes the aspirated material represents a benign or malignant lesion. No significant complications occurred with this procedure.

Results

The office records of 92 patients who had fine needle aspiration were retrospectively reviewed. (Table 1) Of the 92 aspirations, 11 were reported as unsatisfactory and one was lost during processing in the laboratory. An unsatisfactory diagnosis meant that there were no significant cellular elements on the slide from which to make a diagnosis. This left 80 cases available for review. No operation was performed on 36 patients and 44 had open surgical biopsy. The 36 patients not operated upon were felt to have benign breast masses on physical examination and reported benign on needle aspiration. The followup is only six months to two years for these cases, however, the diagnosis of carcinoma was not made on followup examination in any of these patients.

Table 1
NEEDLE ASPIRATION OF SOLID BREAST MASSES

Total Cases	92
Unsatisfactory	11
Lost in Processing	1
Available for Review	80
No Operation	36
Operation	44

Of the 44 operated cases, (Table 2) 25 were found to have carcinoma and 19 were benign. Needle aspiration was positive in 20 of the 25 cases proven to have carcinoma (80%). The clinical diagnosis prior to aspiration of the breast mass was listed as to whether it was thought to be benign or malignant and this was compared with the diagnosis made on needle aspiration.

Table 2
NEEDLE ASPIRATION OF SOLID BREAST MASSES
OPERATED CASES—44

Physical Examination	*Needle Aspiration*	*Open Surgical Biopsy* +	−	*Total*
−	−	0	14	14
+	+	17	1	18
+	−	5	1	6
−	+	3	3	6
		25	19	44

In the first group of cases clinical examination was felt to be benign and needle aspiration was reported as negative in 14 cases. However, because of a persistent localized mass, surgery was performed and all of these patients were found to have benign lesions. In the second group, 18 patients with a clinical diagnosis of carcinoma and a positive needle biopsy were found at surgery to have carcinoma in 17 cases and one was benign. This one false positive was reported as positive (Class IV) for carcinoma. In retrospect the cytopathology was over-read and actually was a fibroadenoma showing benign sheets of cells. A third group of six patients was felt on physical examination to be positive for carcinoma and the needle aspiration was reported as negative. Five of these patients did have carcinoma at surgery. Thus, there were five false negatives in this group. In three of these patients no cellular material was present on the slide that could be diagnosed as cancer and the needle aspiration had obviously missed the tumor mass. In two patients aspiration was reported as indeterminate (Class II & III) and in retrospect was felt to have been under-read by the cytopathologist.

There were six patients who were felt on clinical examination to have benign lesions, but needle biopsy was reported as positive in three and indeterminate (Class III) in three. In the three aspirations reported as definitely positive for cancer, all were found to have carcinoma at open biopsy despite the negative clinical examination. The three patients with indeterminate aspirations showing cytologic atypia were found to have benign lesions at surgery.

Discussion

Careful breast examination by an experienced physician is the most important method of determining which patients with solid breast masses should have open surgical biopsy for a suspicious lesion. Mammography is extremely valuable in diagnosing early carcinoma that cannot be palpated and in diagnosing a palpable mass if it can be visualized. Unfortunately mammography is not always able to demonstrate the palpable mass and this has led at times to delay in the diagnosis of carcinoma.

Needle aspiration of breast cysts is an established method of office treatment. If the cyst can be aspirated, completely evacuated and the fluid does not contain blood, then the patient can be followed without surgical biopsy. Fine needle aspiration has also been recommended in an attempt to improve the diagnostic accuracy of solid breast masses. Aspiration cytology has been used successfully in Europe for many years in the diagnosis of breast cancer. Duguid and his associates[1] reported on 294 needle aspirations performed in a breast clinic for one year. They found that 5% of clinically benign lesions proved on biopsy to be malignant and recommended cytological examination of all breast masses. Kern[2] reported on 93 breast aspirations in patients who were subsequently found to have breast cancer. He found that 79% were reported as positive or strongly suggestive of carcinoma and 21% were considered negative. In 12 cases with clinical and mammography findings which were equivocal, the cytological diagnosis of carcinoma led to an earlier biopsy than would otherwise have been performed. He recommended that because of the possibility of a false positive or a negative aspiration diagnosis, a formal frozen section be performed at surgery before any definitive treatment is performed. Strawbridge et al[3] reported on 3724 cytological examinations of breast lesions. Of 890 masses in which adequate histology was obtained, a false positive result in 3% and false negative result in 9.6% was noted. They felt that fine needle aspiration demonstrated several advantages in clinical management and definitely justified the use of this method.

Fine needle aspiration was valuable in the diagnosis and management of solid breast masses for the following reasons. Needle aspiration helped to determine the consistency of the mass. A suspicious mass on palpation may be found to be soft on needle aspiration suggesting fatty tissue or it may be very firm suggesting tumor. A negative needle aspiration combined with a negative clinical examination aided in the decision not to do an open biopsy. This was especially helpful when combined with negative mammography. All patients in this series in whom the physical examination and needle aspiration were negative were found at surgery to have benign lesions. It may be possible with additional experience with the technique to decrease the number of negative breast biopsies.

When physical examination was positive for carcinoma, a positive needle aspiration aided in planning the work-up of these patients. The patients could be told definitely that carcinoma was most likely enabling better planning of the operative procedure (whether to do this as an inpatient or outpatient procedure). Appropriate work-up such as bone scanning could be performed as indicated. One of the most significant advantages of this technique was the identification of patients with extensive benign breast disease who had underlying carcinoma. The clinical diagnosis of carcinoma in patients with diffuse fibrocystic disease is very difficult. Three patients in this series were felt on examination to have this type of benign disease yet needle aspiration was reported as positive for carcinoma and all three were found to have cancer at surgery. Thus, delay in diagnosis and treatment was avoided.

Because false positive and negative diagnoses do occur with fine needle aspiration, open surgical biopsy of solid breast masses is still indicated. With increasing experience in needle aspiration and cytology interpretation, it may be possible to eliminate biopsy in patients with obvious Class V aspirations positive for carcinoma. However, open biopsy does allow a definitive tissue diagnosis and also adequate tissue may be obtained for estrogen receptors.[4]

In the future a 20 gauge 2-piece thin wall slotted needle* which is now available may be used to obtain small pieces of tissue for histological examination as well as material for cytological examination.

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*Becton Dickinson Company Rutherford, New Jersey. 20 gauge 2-piece thin wall slotted needle. #SH 2902

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Basophilic Leukemia and Hyperhistaminemia

A Case Report

KIM A. MARGOLIN, M.D. AND MELVIN L. MORGANROTH, M.D.

ABSTRACT—A patient with chronic obstructive lung disease was admitted in acute respiratory failure. The patient developed gastric hyperchlorhydria and nonobstructive ileus, and he was simultaneously noted to have a myeloproliferative disorder with peripheral basophilia. Hyperhistaminemia associated with high total basophil counts was probably responsible for the patient's hyperchlorhydria, which responded promptly to cimetidine therapy.

Histamine is the biochemical mediator of a variety of tissue reactions pharmacologically defined by H1 and H2 receptors.[1,2] Clinical manifestations of histamine excess include diarrhea, flushing, urticaria, bronchospasm (H1), gastric hyperchlorhydria, sinus tachycardia (H2),[3] and skeletal muscle vasodilatation (H1 and H2). Although absolute basophil counts are elevated in many myeloproliferative disorders,[3] only systemic mastocytosis has frequently been associated with symptomatic hyperhistaminemia. This phenomenon may be due to differences in histamine metabolism between mast cells and basophils,[4,5] which are elevated in varying proportions in the myeloproliferative disorders.

There are several case reports describing patients with basophilic leukemia, hyperhistaminemia and peptic ulcer disease.[3,6-9] Our patient developed gastric hyperchlorhydria with documented hyperhistaminemia and response to cimetidine therapy.

Case Report

R.Y. was a 61-year old white male with a long history of chronic obstructive lung disease and congestive heart failure but no history of gastrointestinal disease. He was admitted to the West Haven Veteran's Administration Hospital on 9/2/79 with acute respiratory failure. Admission laboratory values were within normal limits with the exception of lactate dehydrogenase 402 IU (upper limit of normal 200 IU). The hemoglobin was 12.6 gm %, hematocrit 39.7 %, white blood cell count (after intravenous methylprednisolone) 13,100 with 33% neutrophils, 5% band forms, 48% lymphocytes, 4% monocytes, 5% eosinophils and 5% metamyelocytes. The patient was intubated and treated with antibiotics, diuretics, digoxin, bronchodilators and glucocorticoids. During the intubation, the patient vomited "coffee-grounds" and was started on intravenous cimetidine, 300 mg. every 6 hours. A nasogastric tube was left in place for monitoring, and over the next three days, the 24-hour volumes of gastric aspirate were 1500, 1500 and 800 ml. The patient developed thrombocytopenia (minimum platelet count 40,000/mm^3) without change in hemoglobin or white blood cell count and without evidence of disseminated intravascular coagulation. The platelet count normalized after discontinuation of both cimetidine and ampicillin on the empirical grounds that one of these agents might be responsible for the thrombocytopenia.

During the fifth through eighth hospital day, the gastric aspirate remained free of blood but increased in volume to over 8 liters in 24 hours (see figure). A transient non-obstructive ileus was treated with Cantor tube decompression of the small bowel. A barium study of the upper gastrointestinal tract revealed no ulcer or mucosal abnormality. The patient was not subjected to endoscopy because of his life-threatening respiratory insufficiency. Cimetidine was re-instituted without recurrence of thrombocytopenia, and the daily volume of gastric aspirate decreased immediately. Serum gastrin, measured during cimetidine therapy, was 118 pg./ml (normal up to 120 pg./ml), and urine 5-hydroxyindoleacetic acid test was negative. Gastric analysis was performed 12 hours after the temporary discontinuation of cimetidine. The basal acid output was 62.5 mEq/hour (normal less than 5 mEq/hour). Maximal pentagastrin-stimulated acid output was 78 mEq/hour (normal 17-33 mEq/hour). Cimetidine was administered (300 mg. intravenously) and gastric contents were collected in 5-minute intervals. Within 30 minutes of intravenous cimetidine therapy, gastric acid secretion declined from 51.2 mEq/hour to 0.12 mEq/hour.

Leukocytosis persisted despite tapering glucocorticoid doses. On the sixteenth hospital day, the white blood cell count was 19,100 with 50% neutrophils, 10% band forms, 5% lymphocytes, 11% monocytes, 3% eosinophils, and 21% basophils. There was no evidence of infection, and the platelet count and hemoglobin remained stable. The bone marrow contained increased hematopietic elements with a myeloid:erythroid ratio of 6:1, megaloblastoid erythroid precursors, and a left-shifted myeloid series consistent with

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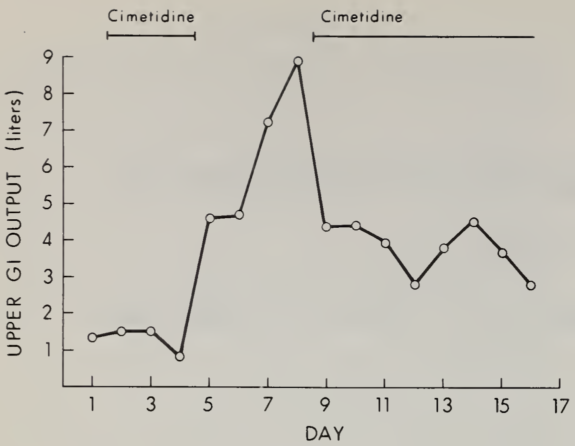

Figure

The 24-hour total nasogastric and Cantor tube drainage is plotted against hospital day. On days 6-9, the Cantor tube drainage averaged 13% of total, and on days 10-12 (after which it was removed) the Cantor tube drainage was less than 100 ml per 24 hours.

chronic myelogenous leukemia. The karyotope showed no Philadelphia chromosome translocation, the leukocyte alkaline phosphatase was 75 (normal 9-90), and the vitamin B12-binding globulin was 2500 (normal 1000-2000). The plasma histamine was 13.6 ng/ml (normal less than 2 ng/ml), the whole blood histamine was 1936 ng/ml (normal less than 100 ng/ml), and the 24-hour total urine histamine was 146 mg (normal less than 50).

The patient remained on cimetidine therapy without recurrent gastrointestinal symptoms. Within two months, however, he entered an accelerated phase of leukemia and succumbed to complications of pancytopenia.

Discussion

Symptoms of the entire spectrum of H1 and H2-mediated phenomena have been described in basophilic leukemia, but peptic ulceration has been the most frequent finding associated with hyperhistaminemia. Our patient, whose clinical status precluded definitive endoscopic evaluation, had hyperchlorhydria without radiographic or symptomatic evidence of ulcer disease. This patient's respiratory decline may also have been exacerbated by the bronchospastic effects of high circulating histamine levels, although we need not invoke the contribution of hyperhistaminemia to the decline in this patient with such severe underlying lung disease. Relief of hyperchlorhydria was achieved clinically with the standard of the H2-blocker, and gastric analysis confirmed the decrease in acid secretion in response to H2 blockade.

Patients with Philadelphia chromosome-negative myelogenous leukemia and those in the accelerated phase of chronic myelogenous leukemia respond poorly to antileukemic therapy. Therefore, it has not been possible to follow the histamine levels and the clinical effects of hyperhistaminemia in patients with basophilic leukemia and documented hyperhistaminemia during therapy.

In the symptomatic management of these patients, antihistamine therapy may be superior to antacids for treatment and/or prophylaxis of gastrointestinal disease and may be specifically indicated for the nongastrointestinal effects of hyperhistaminemia.

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Death, the Physician, and the Process of Medicine

ROBERT P. NAPARSTEK, M.D.

Do we do ourselves a disservice when we identify death as an adversary, and ourselves as immortal enemies of it? When this occurs, the doctor implicitly identifies himself with the Good, hopelessly fighting a faceless enemy. Death then is seen as a failure and the doctor, as though he could ever avert it, becomes the vanquished. Death is complicated. We use words like incurable, terminal, dying and hopeless, which are vague at best. Even dignity is ambiguous.

Beauty and Cruelty. Kindness and Murder. Art illuminating the wilderness. Philosophers' speculations, political revolution. Children. The descent into drunkeness. These human experiences are ways in which we approach the finitude of our lives and yearn for the infinite. They are, in part, designed to protect us from our consciousness.

Death represents the finitude of human existence—one dependent on the other. A true reverence for life might imply permitting it to end. Even the healthiest is destined to die, regardless of his physicians' competence. We physicians, as everyone else, must accept this reality. If our goal is the prevention of death rather than the preservation of health and the relief of suffering, we are then asserting a search for immortality which can only lead to our disappointment and confusion. We must make peace with the finite. We must always concern ourselves with whether our interventions will increase or decrease the patient's suffering. We ought to concentrate on the condition of life that is being extended rather than its length. When we do otherwise, we become slaves to technology and participate in degrading the gravity and solemnity of the end of life. The burden of proof lies with those who choose to intervene in any process; they must show why the intervention is necessary.

However, whether or not a doctor's healing arts work is not necessarily in his hands. Believing that it is can only incur suffering to the doctor. His subsequent unconscious avoidance of this pain then puts an end to any potential for real compassion. The suffering, though, serves a purpose in the unconscious mind of the physician. Suffering confirms his misplaced devotion to virtue, his dissociation from Evil and the testing of his character. If he takes the patient's death as his own failure, it will give him meaning. However, the guilt of failure may be inevitable. The question of whether a cancer patient could have been better treated with an alternative regimen can be a source of guilt. The doctor may also find fault with himself when the patient dies of sepsis caused by the suppression of the bone marrow by the prescribed chemotherapy.

When death comes regardless of our healing arts and sciences, how do we deal with the frustrating and unending identification with failure and with the perception of having succumbed to evil? One can get caught in denial and the counter-phobic behavior of battling death unceasingly, instead of viewing it as part of the life process of the patient himself, and of the process of our profession. Death must not be viewed as failure but as the natural end of our process as human beings and as healers. When we are in contact with a patient, we are witnessing only parts of his process which extends from his birth to his death. It is then that we can begin to see the medical profession too as a process, rather than as a product—a product which may unconsciously promise immortality.

The physician looking for victory over death is doomed. Rather, Medicine can be seen as an enhancement of the patient's entire process of existance, including his dying process which is a meaningful part of the patient's being. The cancer patient whose life is extended for a few years by chemotherapy but who will die soon after has not been failed by his physician. The victory lies in how those years enhanced the patient's process of existence. The final event need not be seen as victory nor as defeat.

Medicine as part of the universe is subject to the uncertainty principle. Analogously, our reaction to our own death may break through into a relationship with a patient and influence how the patient subsequently feels about death. It is the equivalent of counter-

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transference; in fact, it *is* counter-transference, as it impinges on our therapeutic relationship with the patient. The unconscious conveyance of the doctor's own fear of death creates additional fear in the patient, making the healing process more difficult.

Doctors Artiss and Levine write of many examples, one of which will serve as an illustration here.[1]

> A pediatric oncology fellow misunderstood a parent's request for information about his dying child. His anxiety was so great that he responded with reams of data where actually the parent wanted to discuss his own sense of guilt and complicity in the child's cancer.

Because of the doctor's fear and inadequacy (and claim of lack of time), he was blind to the parent's subtle request. When doctors need to deny death, they may use a projected assumption of the patient's denial to support their own.

Pellegrino[2] speaks of the implicit act of profession in calling oneself a professional. A doctor implicitly "professes" to a patient in a particular state of vulnerability, that he can help in the patient's interest. This autonomous and by necessity conscious statement confirms a willingness to assume the obligations of the patient's interest and the authenticity of the professional's knowledge and skills. All the science and art of medicine unite to determine a treatment choice for a person at a particular point in his life process. The patient expects this choice to be what is right and best for him and tacitly accepts that the doctor will know what this is. This is the promise implicit in the art of profession, part of our professional process.

We have a moral obligation to be competent (at least), to allow ourselves to undergo peer review and be open to criticism, to confess ignorance or error to the patient, and to sustain the effort of improvement. Competence though is modified by the aim of the medical decision. Competence must be defined within the best interest of the patient, conforming to his values and his sense of health. The "professed" physician must guard against manipulating the choice of the patient in order to accomodate his own ideas of death. We should try to insure that we allow the patient to have the same opportunity for actualizing his views of meaning and value, as we would expect for ourselves. This, I propose, is the leitmotiv of our professed ethic. It serves to assure the morality of our personal interactions with patients, other physicians, and with ourselves.

Our task is to come to terms with our psychic anchors so that we will be free to strive and create without thought of reward. We must strive, even though we know that nothing lasts and that all things, however beautiful, will turn to dust. This and only this marks the triumph of our human spirit and it alone can lend meaning to the cosmic process. It affirms life in all its tragic vicissitudes and contradictions. Only when we acknowledge our fear of death and neurotic hope for victory over it can we confirm our honesty; we can face reality without succumbing to illusions. The triumph is in arriving at this point. No further attempt to make it meaningful is necessary. We should not be obsessed with bringing order to a senseless universe. Rather, we can learn what order already exists as a function of the patient's own understanding. It is within this preexisting order that treatment decisions can be made in the context of the patient as his own personal moral agent.

There is only existential anxiety left to consider. It can be viewed as liberating for the doctor caring for a dying patient. It forces him to enter the human equation with his patients as he confronts the basic issues in his own life. "Angst" is preferable to the displacement and denial of death that frequently cripple our effectiveness with patients and ultimately with ourselves.

We work on a fulcrum between death and life, and we must struggle without the support of certainty. Death may be absolute but it is not a cause of despair and dread. It enhances the positive reality of life itself. It makes our individual existences real, absolute and valuable.

We struggle to be released from the bondage of our hopes and fears. As we do, we can respond to the beauty of existence and observe with equanimity how life feeds on life, requiring no rational justification. The spirit breeds death, but it is also the source of life, everlastingly renewed.

ACKNOWLEDGEMENTS

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Important Advances in Clinical Medicine

Epitomes of Progress—Physical Medicine and Rehabilitation

Nonverbal Communication

There are many disabled persons who are unable to verbally communicate despite an intact awareness and mental competence to express their thoughts and understand spoken words. Recent innovations have provided communication devices for postlaryngectomy persons and equipment for deaf people to communicate by telephone and watch television with subtitles. Unfortunately, many disabled persons lacking the ability to verbally communicate have other impairments that preclude their using these devices, such as cerebral palsy or other brain injury, amyotrophic lateral sclerosis and stroke.

Managing the severely handicapped nonverbal person requires a health care team dedicated to the improvement of nonverbal communication. These teams usually consist of a physician with special training in the field, a speech therapist, physical therapist, occupational therapist and psychologist.

Recent articles explain the process that determines which persons would be appropriate candidates for nonverbal communication training and which of the increasing numbers of devices would be most suitable for a particular disability. Items to investigate include: attention span, areas of volitional motor control, aphasia, memory and so forth.

The advent of microswitches and computer chips has aided the development of devices that are much more portable and becoming less expensive. The most obvious form of communication, if the ability to use it exists, is the typewriter. A small portable device about the size of a minicassette recorder (called the Cannon Communicator) enables a person to type out messages on a small tape. Someone with severe cerebral palsy may have difficulty using this device, however, because of limited volitional motor control. Some devices can be controlled by one muscle through an electromyokinetic signal or use of a finger or toe switch.

It is extremely gratifying to help patients communicate. For example, a young man with a head injury was seen, whose only voluntary motor movement was very slight movement of his thumb. He was able to use a communication board and learned to communicate effectively with his family and hospital staff.

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Phrenic Nerve Conduction Studies

Long-term total or partial ventilatory support by diaphragm pacing (electrophrenic respiration) is now an accepted procedure in quadriplegic patients with chronic respiratory paralysis or insufficiency and in patients with brain stem lesions, sleep apnea and other respiratory disorders. The primary requirement for successful diaphragm pacing is viability of the phrenic nerves, which should be assessed preoperatively. This is done by phrenic nerve conduction studies.

A method has been available since 1967 for studying phrenic nerve conduction by percutaneous stimulation of that nerve in the neck and placing surface recording electrodes on the chest. However, the technique has not become a routine procedure in most electrodiagnostic laboratories for a number of reasons, including difficulty with simultaneous stimulation of the brachial plexus, problems with recording the evoked potential and patient discomfort.

A recent paper describes a simple, safe, reliable and relatively painless method for studying phrenic nerve conduction. The technique uses a transcutaneous monopolar-needle stimulating electrode and surface recording electrodes, the active pickup being positioned over the xiphoid process and the reference electrode at the ipsilateral costochondral junction of the eighth intercostal space. Normal measurements are (mean ± standard deviation): latency 7.44±0.59 msec, amplitude 845±405 μV, and duration 48.1±12.2 msec. Latency is the most important measurement. That paper reported that single determinations of phrenic nerve conduction had been done in a few quadriplegic patients but concluded that serial determinations are indicated in most patients requiring diaphragm pacing.

Another recent paper reports serial phrenic nerve conduction studies in quadriplegic patients. This study showed a pattern of phrenic nerve function that changed with time. Phrenic nerves may be responsive initially, then become unresponsive and have responses reappear later. In other patients, the phrenic nerves may be unresponsive initially and responsive later in the post-injury course. Finally, some nerves may remain nonviable once responses are lost. The report concluded that when considering diaphragm pacing serial studies should be carried out for at least six weeks after injury on initially responsive nerves and for at least two years after injury on initially unresponsive nerves before a final decision is made regarding phrenic nerve viability.

Phrenic nerve conduction studies have also been useful in differentiating between neurogenic and non-neurogenic causes of hypoventilation in patients with craniocervical trauma and in patients for whom there are problems in discontinuing respirator care. In view of the recent technical advances, phrenic nerve conduction studies should be used by electrodiagnosticians in centers dealing with patients with any of these disorders.

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Evoked Brain Potentials in Head Trauma

Evoked potentials, signals that are buried in spontaneous electrical activity of the brain, can be evaluated using signal-averaging techniques. These noninvasive electrophysiologic tests localize dysfunction in individual neurosystems and identify damaged anatomic areas of the brain. This information complements that obtained by clinical evaluation and computerized tomography in brain trauma. Grading the evoked brain potentials allows assessment of the degree of abnormality and accurately establishes a prognosis for rehabilitation soon after head injury occurs.

Each sensory modality allows exploration of cortical and subcortical areas—the auditory evoked potential assesses the brain stem and the vertex, somatosensory evoked potentials assess deep subcortical structures and the primary somatosensory area and visual evoked potentials assess the occiput. There appears to be a definite relationship between the degree of disruption of central nervous system function in brain trauma and the degree of abnormality of evoked potential.

In the postconcussion syndrome, evaluation of brain evoked potentials may also establish that though there are no abnormal physical signs, there may in fact be an electrophysiologic disturbance between the diencephalon and the brain stem. This finding implies an organic rather than a psychogenic basis for this syndrome.

The evoked potential technique can distinguish between organic and psychogenic disorders, provide an objective indicator of sensory function when perceptual tests are impractical (such as with comatose persons) and disclose the specific brain activities that handle different types of sensory information. Evoked potentials can provide information on impairment of ipsilateral, contralateral or bilateral transmission of electrical signals and can delineate the most intact sensory systems, thereby aiding in the planning of the most appropriate rehabilitation strategies.

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Bladder-Sphincter Dyssynergia

Micturition in adults is under voluntary control and is well coordinated when contraction of the bladder is associated with relaxation of the periurethral sphincter. Any spinal cord lesion involving the long tracts results in some loss of voluntary control on micturition and bladder-sphincter incoordination or dyssynergia in which voluntary or reflex contraction of bladder does not lead to complete relaxation of periurethral sphincter. Mild dyssynergic response occurs with multiple sclerosis and incomplete spinal cord injuries. Severe detrusor-sphincter dyssynergia occurs in complete upper thoracic and cervical lesions and is associated with a rise in both systolic and diastolic blood pressures. Lesions above the pons, such as stroke or head injury, are usually associated with detrusor hyperreflexia and not dyssynergia.

Detrusor-sphincter dyssynergia with increased sustained intravesical pressure can lead to vesicoureteral reflux and damage to the kidneys. Mild dyssynergia is treated with alpha blockers such as phenoxybenzamine hydrochloride, anticholinergics and intermittent catheterization. Severe dyssynergia is best treated by a transurethral resection (myotomy) of the sphincter. Spinal cord injury patients with detrusor-sphincter dyssynergia and maintained with long-term indwelling catheters or supravesical divisions run the risk of autonomic dysreflexia, repeated infections and stone disease.

Removal of the catheter in such patients following transurethral sphincterotomy reduces the incidence of repeated infections and autonomic dysreflexia and improves the quality of life.

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Current Concepts on Orthotics

The use of orthoses (braces and splints) has greatly expanded in recent years due to better understanding of the principles of use, the fabrication of new and lighter materials and increased acceptance by wearers.

The basic principles of supporting weakness, preventing or correcting deformities and relieving pain have not changed since ancient times, but with newer knowledge these principles are being applied more effectively. For example, the use of a cast brace to maintain knee motion, rather than rigidly immobilizing the knee, will give better functional end results. Also, the ankle-foot orthosis (AFO) to correct drop foot has replaced the short-leg metal brace attached to a shoe. It is a simple plastic posterior shell that fits from the calf along the sole of the foot and into the shoe. New plastics have aided the fabrication of leg braces and back supports, from the simple to the more complicated ones, including the Milwaukee frame for scoliosis.

Spinal orthotics, which formerly relied on a three-point pressure system made of leather and metal, have given way to the thoracolumbar spinal orthosis (TLSO) made of plastic that secures support around the pelvis and extends upward to give support in any posture.

Shoe orthoses vary from a special cast to fit a deformed foot or appropriate wedges to relieve pressure to special plastic insoles that accommodate for pressure areas in neuropathy.

The upper extremity orthosis not only substitutes for weak or absent motor power but also maintains position so that adjacent joints can either be moved or given traction by special attachments. Again, the newer plastics have made these orthoses more effective and acceptable to users.

A patient who is temporarily or permanently disabled can be helped by a profusion of devices ranging from a longhandled shoehorn and stocking puller-on to pencil holders and knife-fork devices. There are many kinds of canes, crutches and walkers with varying types of supports for particular problems. Wheelchairs also come in a variety of sizes, shapes and features to accommodate special needs.

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Electrodiagnostic Evaluation of Carpal Tunnel Syndrome

Carpal tunnel syndrome (CTS) is a clinical condition for which electrodiagnostic testing is commonly requested. Routine electrodiagnostic testing for CTS usually includes electromyography (EMG) of the involved extremity and recording the median nerve distal motor latency (DML), distal sensory latency (DSL) to the index finger and forearm conduction velocity. Unfortunately, these routine procedures are limited in their accuracy. EMG gives abnormal results in only 45 percent of cases of CTS, while median nerve DML is abnormal in 67 percent of cases and DSL is abnormal in 85 percent of CTS cases. Thus, at least 15 percent of cases with apparent clinical CTS will have normal electrical studies. Because of this high rate of false-negative findings on electrical studies a number of procedures have recently been proposed to improve electrodiagnostic accuracy in CTS.

As early as 1974 data were reported that showed that abnormal findings on DSL, the most sensitive single test, could be limited to a single digital branch of the median nerve in 10 percent of CTS cases. Recording of the DSL to multiple digits (not yet a routine procedure) is done using the same measured distance from stimulating cathode to pick-up cathode for each digit. This technique may be useful in cases with a high probability of CTS on clinical grounds where there is a normal DSL to the index finger. It is especially indicated when there is disturbed sensation in a finger other than the index finger and the routine studies are normal.

Of great clinical interest are recent data that show a well-defined relationship between median and ulnar DML and DSL in the same and opposite hands. The difference in median nerve DML and DSL between opposite hands should not exceed 1 msec and 0.5 msec, respectively. Likewise, the difference between median and ulnar nerve DMLS and DSLS in the same or opposite hand should not exceed 1 msec and 0.5 msec, respectively. Differences in excess of the above values suggest dysfunction of the nerve with the longer latency if all latencies are within the normal range. Many cases of CTS can be identified by this technique when routine DML and DSL recordings are normal. Because CTS is bilateral in over 60 percent of patients, the use of the median-ulnar nerves latency difference seems the more reliable tool in diagnosis when the routine studies are reported in the normal range.

A recently reported addition to the median-ulnar nerves latency difference technique is comparison of the median and ulnar nerve DSL with the ring finger, which is usually innervated by both nerves. Patients with normal findings showed a difference of 0.5 msec or less, while patients with CTS showed a difference ranging between 1 and 2.1 msec (mean 1.46 msec).

Finally, techniques that evaluate the more discrete segments of the terminal median nerve are reported to be helpful in the diagnosis of CTS and especially in the differentiation between CTS and a distal neuropathy. One study compares conduction between the wrist-palm segment and the palm-digit segment of the nerve. Another study uses multiple stimulation sites at 1-cm increments and looks for a change in uniform latency with increasing distance. While both techniques are complicated, they may be valuable in difficult CTS cases. The study of multiple stimulation sites is especially useful in identifying a discrete site of abnormality in the carpal tunnel.

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Thrombolytic Therapy for Deep Venous Thrombosis and Pulmonary Embolism

A major problem associated with spinal cord injury is deep venous thrombosis (DVT) and its dreaded concomitant, pulmonary embolism (PE). These entities traditionally have been treated with intravenously administered heparin anticoagulation, followed by three to six months of anticoagulation with warfarin sodium taken orally.

Another promising treatment modality, thrombolytic therapy, is now available to clinicians. Anticoagulation therapy using heparin does not prevent recurrent attacks of deep venous thrombosis, improve hemodynamic disturbances associated with thrombosis or embolism, or prevent permanent impairment of the pulmonary vascular bed and venous valves. There is evidence that lysis of thrombi and emboli using streptokinase (SK) or urokinase (UK) followed by heparin anticoagulation can achieve all these goals. Both SK and UK are plasminogen activators; they convert inactive plasminogen to the active enzyme plasmin, which in turn dissolves fresh fibrin clots.

At a recent National Institutes of Health Consensus Development Conference, the following guidelines were set forth for the use of thrombolytic therapy. This therapy should be administered only in cases where benefits outweigh risks, such as in patients with proved, fresh (less than five days) proximal deep venous thrombosis, pulmonary embolism or both. Proper patient selection is mandatory because bleeding, the most critical side effect, occurs when there are hemostatic defects present before instituting therapy. Absolute contraindications include active internal bleeding, cerebrovascular accident within the previous two months or other active intracranial process. Major contraindications include recent surgical procedure (within the past seven to ten days) obstetric delivery, organ biopsy, previous puncture of noncompressible vessels, gastrointestinal bleeding, serious trauma or severe hypertension. Minor contraindications include recent (within the past seven to ten days) minor trauma, high likelihood of left heart thrombus, bacterial endocarditis, hemostatic defects and patient's age being over 75 years.

Thrombolytic drugs are administered in a fixed loading dose, followed by a fixed maintenance dose for 24 hours. This is in turn followed by conventional therapy with heparin for seven to ten days, followed by warfarin (Coumadin, Panwarfin).

Bleeding can be minimized by limiting physical handling of the patient, discontinuing intramuscular and subcutaneous injections and substituting medications taken by mouth, minimizing needle punctures and compressing invaded vessels. When this regimen is followed, the incidence of major bleeding complications has been 5 percent.

Therapy is monitored by following activated partial thromboplastin time and prothrombin time to determine whether some degree of systemic fibrinolysis has been established. Monitoring is not used as a guide for altering drug dose.

If bleeding should occur, therapy is discontinued. This usually results in cessation of fibrinolysis, as these therapeutic agents have a short half-life. If bleeding continues, whole fresh blood, fresh frozen plasma or epsilon aminocaproic acid (Amicar) can be administered.

Fibrinolytic therapy is a promising development in the treatment of DVT and PE and may eventually become the initial form of therapy for these conditions.

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Diagnosing Pulmonary Embolism

Despite the widespread use of low-dose heparin therapy as prophylaxis against deep vein thrombosis (DVT), that complication and its sequela, pulmonary embolism (PE), are relatively common in patients with spinal cord injury, head injury, stroke or major fractures. Patients at high risk for complications from anticoagulant therapy are those with (1) cerebral hemorrhage, (2) completed strokes within two months of onset, (3) recent head injury, (4) spinal cord injury with associated intracranial, intrathoracic or intra-abdominal injuries, (5) peptic ulcer disease or a bleeding diathesis or (6) prior complications with anticoagulant drugs. A brief update on the diagnosis of pulmonary embolism is therefore included in this series of epitomes on physical medicine and rehabilitation.

Current practice in suspected PE may include initiation of anticoagulation on clinical criteria alone. However, physical signs and symptoms typically are nonspecific. More commonly, treatment is begun after arterial blood gas studies and ventilation-perfusion ($\dot{V}/\dot{Q}$) lung scanning. However, these approaches may result in misdiagnosis and inappropriate and hazardous treatment in many cases. A low arterial oxygen pressure (Po_2) may be present with a variety of acute or chronic lung diseases while a normal Po_2 may occur in up to 15 percent of patients with documented PE. $\dot{V}/\dot{Q}$ scanning has been regarded as an adequate screening test for PE in terms of sensitivity and specificity, although a recent report questions the validity of this concept. False-positive findings on $\dot{V}/\dot{Q}$ scans are common, occurring in from 60 percent to 80 percent of cases when pulmonary angiography is used to confirm the presence of PE. False-negative findings of PE on $\dot{V}/\dot{Q}$ scans, however, are rare. Thus, normal findings on $\dot{V}/\dot{Q}$ scan virtually rule out the presence of PE if done between 24 and 72 hours from onset of symptoms.

The diagnosis of PE usually leads to such treatment as administration of anticoagulant drugs or vena cava ligation, both of which may have serious complications. Thus, pulmonary angiography to assure that PE is present is recommended in situations where PE is suspected and the $\dot{V}/\dot{Q}$ scan is positive for PE. These situations include cases in which patients have parenchymal lung disease or abnormalities in both ventilation and perfusion scans (because of the very high rate of false-positive scans), and cases in which patients are being considered for vena cava ligation or in whom anticoagulant drugs are contraindicated or who are at high risk for complications from anticoagulation therapy.

The importance of pulmonary angiography to confirm the presence of PE in patients at high risk for complications from anticoagulation therapy is just beginning to be realized. Carrying out potentially dangerous therapy in a patient who does not require it is hazardous. Heparin is the leading cause of adverse drug reactions in patients in hospital and anticoagulant drugs taken orally pose similar problems. Although pulmonary angiography is not a screening procedure, it is the procedure of choice for confirming the diagnosis of PE in high-risk patients.

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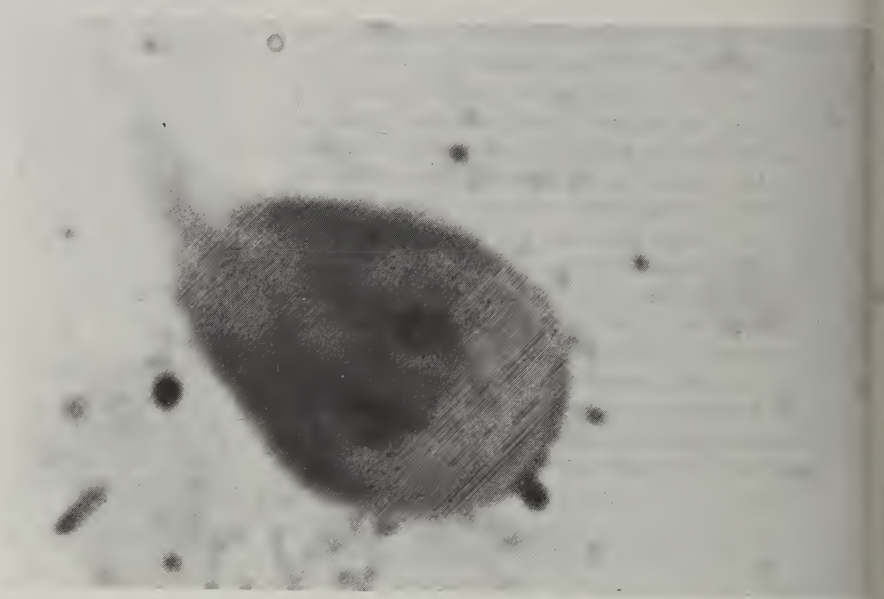

Giardia lamblia

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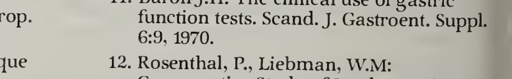

UP TO 96% SUCCESS RATE IN DUODENAL SAMPLINGS

JCAH Requirements for Continuing Medical Education

DOUGLAS V. DUNCAN, M.D.

How many of you are familiar with the *Accreditation Manual for Hospitals?* How many of you ever read any of it? This is a good audience. Most audiences have many hands up after the first question; but on the second question, they all go down. There is only one other book I know of in the Western World that is read less than our manual. I won't mention that by name.

As we start, first, I would like to relate continuing medical education requirements with the entire JCAH *Accreditation Manual for Hospitals* (1980 Edition). The second thing I would like to do is go over briefly what our requirement are. Thirdly, I would like to explain how we survey it, which is tolerantly. Finally, I would like to state what impact the standard has on accreditation. Then, I will leave a few minutes for questions.

Basically, the overall purpose of this manual is to insure that the hospital is a safe place for both patients and employees in which a high quality of medicine is practiced. This manual, therefore, has many standards. The standards for continuing education for physicians are in a section called "The Medical Staff Standards," which is about 14 or 15 pages of a 250-page manual.

In 1975, the Board of Commissioners of the Joint Commission on Accreditation of Hospitals, anticipating the development and publication of "The Medical Staff Standards," took a look at what they considered the important elements in the quality of care issue within the hospital. They came up with elements that were embodied in "The Medical Staff Standards," and later, in our recently published, "Quality Assurance Standards." I will enumerate those for you.

Of course, the most important element in a Quality Assurance Program is the front door of the hospital. That is the credentialling, or how you secure physicians and delineate privileges. In other words, insisting that they do what they are qualified to do.

A second factor, or element, that was developed was the Utilization Review Standard. That is the standard which stands alone. It has to do with the efficacy of services rendered, as opposed to the quality of services rendered. If you think about this for a few minutes, it becomes almost impossible to differentiate between efficacy and quality because they are very closely interwoven.

The third element in any hospital quality program is what we refer to as monitoring, which I heard referred to earlier today as peer review. In essence, we ask that the medical staff itself review its own members. They do that for such traditional things as departmental review of the work, surgical case review, records review, taking a look at the way antibiotics are prescribed, blood transfusions are given, etc. Our function there would be to evaluate the job done by the peer reviewers, namely, the medical staff.

Finally, there is continuing education. Monitoring is in Medical Staff Standard IV. Credentialling is in Medical Staff Standard I. Continuing education is Medical Staff Standard V. It is not the least important because it was put last, but it is what we are going to discuss now. The fifth standard in the medical staff standards states that "the medical staff shall participate in a program of continuing education." It goes on to enumerate the following requirements.

All medical staff members must participate. There must be an in-house program, but the scope and complexity can be determined by local factors. For instance, in a small hospital, this program can be done quarterly and can be held in conjunction with a medical staff meeting. The American Hospital Association defines a small hospital as having under 100 beds. Statistics show that 54% of the hospitals in the United States can be defined as small hospitals. In a large hospital, which is typically a departmentalized hospital, the education program can be held weekly or monthly. They may be on a departmental or service basis. It is really immaterial to us how the program is structured. That is the responsibility of the medical staff.

DOUGLAS V. DUNCAN, M.D., Associate Director, Hospital Accreditation Program, Joint Commission on Accreditation of Hospitals, Chicago, Illinois. This paper was delivered by Dr. Duncan, at the AMA Eighth Annual Conference on Continuing Medical Education.

Finally, I think the key to this whole situation is that it should be relevant to the type of care delivered in the hospital and related to demonstrated need. Therefore, all these other factors I have mentioned should be involved in the selection of the material that would go into the continuing education program of a hospital. In a rural hospital, for instance, it does not make much sense to have a complicated discussion of kidney transplantation and the immunology behind this because that does not really concern the individual practicing in that hospital. There can be perculiar types of practices in each hospital if the peer review mechanism reveals that there is a widespread problem in the hospital. This is what the continuing education program should be about.

I heard mentioned this morning, and I believe it was in Jackson Riddle's talk, that the relevance of education and failures in medical care are not in the rare diseases, the uncommon diseases, but in the conditions or problems that are common to hospitals, which involve knowledge that is common and not particularly sophisticated. The Joint Commission feels very strongly that this is what continuing education in the hospitals should be all about.

We also say that outside education "should be encouraged." We say this, because in certain hospitals in the United States, this is the only practical way the medical staff can have continuing education. It is hardly practical on a two-man staff to have an in-house continuing education program.

A hospital, with which I am familiar, in a southern section of the country, has a two-man staff. They have the finest continuing education program I have seen. They are staffed by two fine family practitioners within 50 miles from a medical school. Each one of those physicians is on the family practice staff of that medical school and spends one day a week going to that medical school, working in the clinics with the young physicians and going to the various rounds that are available.

This opportunity, of course, is not possible in all sections of the country, but we encourage small medical staffs to get outside and keep current with the "state of the art." We also state that documentation of participation in outside education should be in the credentials file.

Finally, we state the individuals responsible for the continuing education program should concern themselves with the hospital's medical library. We also state that the facility should be encouraged to seek approval of their program for continuing education.

How do we survey our standard for continuing medical education? There are three types of hospitals in the United States that have continuing education. First of all, there is the university hospital, which is a large teaching hospital. Our surveyors are instructed very carefully that, if they make any recommendations in an university hospital, where basically teaching takes precedence over patient care and research sometimes takes precedence over patient care, they are going to have to explain to me how this recommendation came about.

If our surveyors go into the two-man hospital in rural Texas and try to say there must be an in-house continuing education program, I just will not accept that. The Commission will not accept that. We ask them to check and see if the two physicians on that staff are going to outside programs, state medical association meetings or to various other medical meetings, as they should do, and actually, as they must do, in order to keep current in the "state of the art." Traditionally, in the hospitals we survey, there would be very few in these two groups. Most of the hospitals we survey are ones that can, should, and do have continuing education programs, good ones.

From my own experience, based on personal conversations with staff members at various small hospitals in the United States, I get the feeling that the medical staff feels that continuing education is not only in the formal education part of the hospital program, but also in their required department meetings and peer review activities. They feel that they get an awful lot out of these activities, particularly hearing about other people's problems and how they are solved. They say they are too closely related to their own problems, but they seem to learn more from other people's problems.

Finally, how does this standard impact on the accreditation of hospitals? I think this is a very misunderstood aspect of JCAH accreditation. There is no single standard that ever impacts negatively on the accreditation of a hospital the first time it is mentioned, with one, maybe two exceptions, and I will mention those.

I don't think that if you were in a fifteen-story, wooden building with no fire escapes and no sprinkling system, you could be accredited. The other thing is, if we find non-licensed physicians practicing medicine in a hospital. These situations could be definite grounds for non-accreditation. Except for these examples, no single standard ever impacts adversely on accreditation.

If we make a recommendation that you do something, then make another recommendation two years later that you do something, and make another one a year or so hence, then one of the commissioners usually will wonder if your hospital is interested in maintaining accreditation and improving the quality of care. If that happens, and is called to our attention, it could impact adversely on accreditation.

Nursing and Physicians

Report of the CSMS Ad Hoc Committee on Nursing

FOREWORD: This report is the product of an Ad Hoc Committee raised by the Society's Council to study the preliminary conclusions of the National Commission on Nursing, and to prepare a critique of its content based on local physician experience with nursing practice and problems. The report was approved by the Council on May 5, 1982, for transmittal to the Executive Vice President of the AMA, and to the Connecticut Joint Practice Committee, composed of representatives of CSMS and of the Connecticut Nurses Association.

I. The National Commission on Nursing

The National Commission on Nursing was founded in 1980 as an independent organization sponsored by the American Hospital Association, the Hospital Research and Educational Trust, and the American Hospital Supply Corporation, to address the shortage of nurses nationwide, and to study related problems of the nursing profession. The Commission held hearings in major cities, forums for small and rural hospitals, and it reviewed literature, state studies, and policy documents. The initial report was published in September, 1981. The report identifies major categories of issues, defines relationships linking nurses to each other and to other health related groups, and states desired outcomes of the Commission's work.

A. *Categories of Issues*
1. Status and Image of Nursing, including changing nurse roles in response to new variations in health care delivery and in professional growth.
2. Interface of nursing education and practice, including current and potential models for graduate and continuing education.
3. Effective management of the nursing resource, including job satisfaction, manpower planning, recruitment and retention.
4. Relationships among nurses, medical staff, and hospital administration, including nurses' ability to participate in the decision making relative to patient care.
5. Maturation of nursing as a self-determining profession.

B. *Relationships among Nurses and Others*
1. Nursing Practice Relations, with physicians, institutions, and administrators.
2. Nursing Education Relations, with the profession and practice.
3. Nursing and Public Relations.

C. *Desired Outcome of the Commission's Work*
1. Retention of nurses in practice.
2. Greater job satisfaction.
3. Maintaining and increasing the competence of nurses in practice.
4. Maintaining and improving the quality of nursing care.

The Commission stated its strong view that nursing's future development and that of the health care system will be determined by directions chosen and actions taken now.

II. The Ad Hoc Committee: Composition and Charge

The Ad Hoc Committee was formed by the Chairman of the CSMS Council, through the solicitation of nominees from each component county association. Each member was given a copy of the 80 page report and charged to study it, and prepare a critique of its content based on local experience with nursing practice and problems. The Committee met on April 1, 1982, reported individually, discussed all the recommendations, and arrived at a consensus. It was agreed that material reported, discussed, and agreed upon would be collated by the Chairman and Staff, returned to Committee members for final comment, and submitted to the Council meeting of May 6, 1982, for transmittal to the AMA Executive Vice President for the information of the AMA Board of Trustees.

Members of the Ad Hoc Committee on Nursing: FRANK K. ABBOT, M.D., Hartford, Chairman; RICHARD ADAMS, M.D., Middletown; RICHARD T. BANYARD, M.D., Greenwich; ARTHUR F. BLAKE, M.D., Higganum; LAWRENCE S. CARLTON, M.D., Hartford; ROBERT J. BRUNELL, CSMS Committee Staff; ROBERT S. GROSSMAN, M.D., Danbury; THOMAS H. HORRIGAN, M.D., Glastonbury; KENNETH R. KAESS, M.D., Winsted; THOMAS H. LESNIK, M.D., Norwich; JOSEPH ZEPPIERI, M.D., New London.

III. Recommendations of the "Initial Report"

The recommendations of the Commission's Initial Report are attached as an appendix to this report. In general the Ad Hoc Committee expressed agreement with the goals and recommendations expressed. Patients need physicians and nurses who are trained to work together in their medical care in and out of the hospital setting. This report seems to aim at defining nursing roles and promoting the educational support to enhance fulfillment of these roles. This role definition must be reconciled with the needs of physicians and administrators in the health care triad, and we suspect that much mutual movement toward a middle ground will be required of all, if nurses are to be adequately compensated, appreciated, and inspired by a profession they can view as attractive and satisfying.

It was significant that no member of the Committee reflected a frequently voiced concern of physicians being threatened by a territorial and ego struggle by nurses to invade the practice of medicine. Rather, there was general and genuine concern that nurses need help as a vital, but endangered part of the health care team—further, that physicians should, if possible, play a part in the revitalization effort. No one suggested that physicians take over nursing to save it, but rather, with intelligence and collegial concern, help wherever we can do the most good.

With respect to nursing practice, it was agreed that the working nurse is generally downgraded by administrators and supervisors. There are frequently no "career ladders" to rise in professional skills and rewards as a practicing nurse. An "old girl" hierarchy tends to stifle initiative, satisfaction, and career advancement, and the attitude of some physicians is of no help.

In too many situations, nurses are still looked upon as "handmaidens," and they lack a recognized place in the therapeutic team, as well as input into the administration of nursing practice. Those nurses with children cannot fit their available hours easily into the standard three shifts, so they must drop out altogether.

In the Connecticut Consortium, over one third of the nurses work part-time, and statewide, the nursing shortage is increasing, particularly in Fairfield County. In Hartford, about one fourth of the nurses leave every year. The resulting deficit has been offset by new graduates so far, but with the decline in the number of student nurses, the future looks bleak.

Many nurses rightly feel that dignity and recognition are important issues. They deal in close human contacts, and give service that is hard to define, and often not recognized in terms of the skills involved and its value to the patient.

Some nurses feel that their education after graduation is not adequate. If they are not in teaching institutions, or if they have to suspend their careers for family responsibilities, they lose touch with medicine's rapid advances in techniques and therapy. Continuing education is often expensive and difficult to pursue logistically for those who also run households.

IV. Activities in Connecticut for Resolving Problems

The Greenwich Hospital recently retained a research organization to investigate their nurse shortage and retention problems. Several months of detailed study among all levels of hospital employment have resulted in a report submitted in March, 1982. Already, one nursing supervisor has been fired, and more changes are to come. It is hard for outsiders to understand the character of supervision which must often be endured by nurses.

The Hartford Hospital has initiated a Collaborative Nursing project in which nurses are given a greater responsibility and decision-making function, working as team members with physicians and making joint rounds and decisions.

At St. Francis Hospital, a Joint Practice program is being initiated to help define nurses roles and to find paths leading from the "handmaiden" perception to fully professional status.

The Fairfield Educational Foundation has established a Center for Nursing Innovation, to initiate action and pilot programs to strengthen the nurses role in present and future health care models.

Primary Nursing Care programs have been started in several hospitals. In this approach, one responsible nurse follows, oversees, coordinates, and administers all nursing features of a patient's care and treatment. This model has been tested in demonstration projects by the National Joint Practice Commission, and has been found to be rewarding for nurses and physicians alike, and has resulted in more effective care for the patients, who would ask for "their" nurse upon return to the hospital.

Finally, the work of the Connecticut Joint Practice Committee, composed of representatives of the Connecticut Nurses Association and of CSMS, goes forward in informing and encouraging joint practice committees and collaborative practice projects in the hospitals of our state. The fruit of these efforts is just now beginning to be seen.

V. Recommendations of the Ad Hoc Committee

The Ad Hoc Committee recommends endorsement of the recommendations of the Initial Report, but we perceive areas that are not highlighted in the report that we feel are more important to the mainstream of nursing attitudes and consciousness, and they should receive more attention and emphasis.

A. Continuing Nursing Education must become more available, more relevant, and more attractive to nurses at all points in their careers. Physicians should offer to fulfill a role in this vital area.

B. Collegial respect and recognition from physicians is important in improving the status of nurses. We cannot do our jobs well unless they are able to do theirs well, not as drudges, but as colleagues who may be closer to a hospitalized patient than we.

C. Clear physician support for improved compensation and status care is overdue. A primarily *employed* profession, nursing should be structured as a clinical and patient management activity rather than as a line organization, and flexible scheduling for part-time professional practice should be available. Participation in employment rules, working and vacation schedules, and professional peer review and discipline should become the rule.

D. There are plenty of jobs in nursing, and plenty of nurses, but somehow, many of them would rather work elsewhere, or not at all. We must seek to discover what is wrong with the job, and strive to correct it. Therefore, the Ad Hoc Committee asked itself, "What is medicine not doing that could be done," and in reply makes the following recommendations:

1. Physicians should use their influence with hospital administrators to promote improvements in the recognition of nurses, in their participation in decision making, and in their remuneration commensurate with their training, experience, and responsibilities.
2. Physicians individually and in organizations should seek and practice closer and professional (not patronizing) communication with nurses, explaining clearly and technically the details of prescribed treatment and techniques, and also be open to suggestions from nurses for improvement in the care of patients.
3. Physicians should offer to participate directly in the formal education of nurses as in the past.
4. Physicians should volunteer a direct role in the continuing education of nurses, particularly in clinical areas, and should make rounds with nurses as with residents.
5. Appropriate physician CME courses should be opened and made available to nurses. Relative to this, the AMA should seek national accommodation to have CME structured relevantly for nurses granted Nurse CEU's for participants. (Mutual Accreditation)
6. Organized medicine and physicians locally should promote nursing as a career at all levels of schooling to promising individuals.
7. Physicians should urge and assist administrators and educators to view nursing as a profession, and to be open to structuring its practice in institutions accordingly.
8. Physicians should urge the establishment of flexible work hours for nurses and the provision of child care centers to enable nurses to practice and fulfill parental roles at the same time.
9. Refresher courses for nurses away from active practice for long periods should be made available and financially practical. In this way a vast reserve of experienced nurses could be brought up to date and re-enter practice. Joint action by hospitals, medical societies, corporations, and schools could bring this about.
10. Physicians should support and encourage such innovations in nursing practice as primary nursing care and collaborative practice, with their promising potential to upgrade both the nursing profession and the quality of patient care.

APPENDIX

Preliminary Recommendations of the National Commission on Nursing

NURSING PRACTICE

Nurses and Physicians
Nurses and Health Care Administrators

1. Nurses and physicians participate in a collaborative partnership in the provision of patient care. To assure excellent patient care, nurses should be included in the clinical decision-making process and must have sufficient authority and must accept responsibility for their professional practice.
2. Physicians must accept the responsibility to promote the recognition of the knowledge and abilities of nurses to make decisions in patient care.
3. Health care administrators in all practice settings have an obligation to establish a suitable environment for nurses to practice their profession. Establishing the environment must include involvement of the nurse administrator as part of the top management team, assuring that nursing participates in policy development and in management decisions at every level of the organization.
4. Trustees, health care administrators, and physicians must ensure that nurses are accorded the professional recognition to provide clinical nursing services to patients.

Nurses and Health Care Institutions

1. Nursing should be structured as a clinical and management entity that promotes professional nursing practice, and the nurse manager should be responsible for assuring that adequate resources are provided to maintain quality nursing care.
2. The management unit should be led by a nurse administrator who is qualified by education and experience to promote, develop, and maintain an organizational climate conducive to professional nursing practice and effective management of the nursing resource.

3. Salaries, benefits, and educational opportunities for nurses should be developed to ensure that they are commensurate with responsibilities of nurses as professionals.
4. The quality of supporting services to the patient care unit is a major determinant in the effectiveness of the delivery system and the satisfaction of the professionals working in the system. In order to ensure a high level of quality support services, nursing, as part of the management team, actively should participate in the establishment of a standard of quality of support services.

Nurses and the Nursing Profession

1. All of the diverse nursing constituencies must join in formulating and supporting common policies in education, credentialing, and standards for practice.
2. Credentialing mechanisms should be implemented to meet contemporary societal and professional needs with all due speed.
3. The national nursing organizations must be more in tune with and responsive to the needs of the staff nurse, including the recognition of differences in practice settings, education, emerging specialization, and management.
4. Nurses should participate in community activities and in public policy forums about health care on a local, state, and national basis. Such efforts should be encouraged by educators and supported by employers of nurses.
5. It is the leadership responsibility of nursing organizations to implement a comprehensive recruitment program that promotes nursing as a challenging career for men, women, and persons from ethnic minority groups, and older candidates. The organizations must enlist the support of other health care organizations and academic institutions to support and disseminate accurate and current information on nursing careers to the public.

Nurses and Unions and Supplementary Agencies

1. Perceptions that the growth of nursing unions and supplementary agencies is the result of various sources of dissatisfaction in the work setting should be studied. The cause and effect of such dissatisfaction should be evaluated.
2. Employers should evaluate conditions of nurse employment to ensure an appropriate work setting, adequate salaries, flexible scheduling patterns, and nurses' involvement in clinical and institutional decision-making.

NURSING EDUCATION

The Nursing Profession and Nursing Education

1. Educational mobility in nursing for undergraduate and registered nurses must be promoted in the higher education system (baccalaureate) through educational articulation between components of the educational system. Programs should be accessible. Special programs for successful reentry of nurses should be developed.
2. Baccalaureate education for professional nursing practice is a desirable goal. In achieving this goal, consideration must be given to regional differences in availability of educational programs, educational funds, practice settings, available faculty, and potential students.
3. Existing private and public funds supporting nursing education should be preserved. Nursing education resources should be allocated to ensure adequate numbers of nurses in basic and graduate programs for clinical practice, education, research, and administration.
4. Accreditation standards should encourage an articulated education system in nursing. The perception that accreditation requirements encourage or discourage innovations in education and career mobility should be studied and appropriately modified.

Nursing Practice and Nursing Education

1. Appropriate utilization of nurses should be related to the competency obtained in the educational program. There must be common understanding and recognition of the different levels of competence from the different programs. There is need to develop and test education and practice models relating levels of education to clinical competencies.
2. To provide adequate clinical education for nursing students, strong affiliations between academic institutions and practice settings must be developed. Faculty in academic institutions should maintain clinical expertise and should share a common knowledge base for the development of nursing education, practice, and research.
3. Collaborative relationships should be established between colleges and universities and practice agencies for the purpose of developing continuing education. Ensuring nurses' participation in continuing education is a shared responsibility of individual nurses and employers, and local educational institutions.

Nursing and the Public

1. Nationally accepted standards for licensure must be implemented and maintained.
2. Federal funding for nursing should be targeted to demonstrate effective education and practice models that, widely disseminated, could provide the base for improved utilization and retention of nurses in the health care system.

State Health Legislation: 1982

Selected Highlights of Recently Enacted State Legislation

AMERICAN MEDICAL ASSOCIATION

Medical Malpractice Update: Legislation and Court Decisions

Three previous issues of the State Health Legislation Report have reported in depth on medical malpractice legislation and court decisions.* Since our last comprehensive report in July 1980, there have been a number of important statutory changes and court decisions. This update will report on such items through 1981. Part A will focus on legislation; Part B will examine court decisions.

Part A: Legislation

The past eighteen months have not produced the wave of legislative enactments that occurred in response to the malpractice crisis of the mid-seventies. Moreover, the recent legislative enactments are, more often than not, refinements on existing tort reform laws rather than dramatic new approaches. Nevertheless, a number of these laws are significant.

The statutory changes encompass the following subjects:

1. Pre-Trial Panels
2. Standard of Care and Expert Witness Qualification
3. Evidentiary Matters
4. Collateral Sources
5. Certificate of Meritorious Claim
6. Insurance

1. Pre-Trial Panels

Hawaii law now limits the medical claim conciliation panel to a maximum hearing period of 18 months for each case filed before it. A May 1980 Act provides in part that "[i]f a decision by the medical claim conciliation panel is not reached within eighteen months, the statute of limitations shall resume running and the party filing the claim may commence a suit based on the claim in any appropriate court of this State." Whereas previously a claimant would have to await the decision of the screening panel before filing suit in court, now he may file suit after the expiration of 18 months, even though the panel has not rendered a decision. (S.B. 3003)

A *Maryland* law, effective July 1, 1981, gives additional authority to the Director of the State Health Claims Arbitration Office. Specifically, the Director is given subpoena power "in any claim for which a panel chairman has not been appointed and in any claim for which a chairman is not performing his duties in a timely fashion." Also, after giving proper notice, the Director may remove a panel member "for good cause shown."

Additional new provisions of the *Maryland* law are as follows:

- A claimant may not add a new defendant after the arbitration panel has been selected, or 10 days after the prehearing conference has been held, whichever is later.
- Until all costs attributable to the first filing have been satisfied, a claimant who voluntarily dismisses a claim may not file a second claim on the same or substantially the same grounds against any of the same parties.
- A shortened period for notice of rejection of an arbitration panel award (in most cases reduced from 90 to 30 days).
- The trial date for each rejection of a panel determination shall have precedence over all cases except criminal matters and workmen's compensation appeals.
- If a legal fee is in dispute, an attorney may not charge or collect compensation for services rendered in connection with an arbitration claim unless it is approved by the arbitration panel, or by the court in the event a rejection of a panel

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*Vol. 5, No. 1 (May 1977); Supplement II to Vol. 5, No. 1 (December 1977); and Vol. 8, No. 2 (July 1980).

State Health Legislation Report, Vol. 10, No. 1, February, 1982 determination has been filed. (Previously, in all cases, an attorney would need the approval of the arbitration panel or the court in order to charge or collect compensation for services rendered in connection with a medical claim.) (S.B. 985)

In March 1981, *North Dakota* repealed its law providing for the arbitration of medical malpractice claims (H.B. 1412), and in May 1981, *Nevada* abolished its medical-legal screening panels. (A.B. 183)

Effective May 18, 1981, *Rhode Island* abolished its Medical Liability Mediation Panels. Now, all actions for malpractice against health care providers are heard initially by a justice of the superior court within 90 days of the filing of the answer. Following an evidentiary hearing, the justice must determine whether the evidence presented, if properly substantiated, would be sufficient to raise a legitimate question of liability appropriate for judicial inquiry or whether the plaintiff's case is merely an "unfortunate medical result." In the event the justice concludes that the case is merely an unfortunate medical result, the action will be dismissed with prejudice. (S.B. 991)

2. Standard of Care and Expert Witness Qualification

Previously, *Delaware* law prohibited a person from giving expert medical testimony as to applicable standards of skill and care unless he was familiar with the degree of skill ordinarily employed in the community or locality where the alleged malpractice occurred, under similar circumstances. Effective June 27, 1980, the Act provides that "[a]ny physician who has been in the active practice of medicine or surgery for at least the past five (5) years and who currently practices in the State of Delaware or within a state contiguous to the State of Delaware and within a radius of 75 miles of the Capital of the State of Delaware shall be presumed to be competent to give expert medical testimony as to applicable standards of skill and care. . . ." (H.B. 445)

Virginia's statutory provision regarding standard of care in medical malpractice proceedings has been amended to add the following language: "An expert witness who is familiar with the Statewide standard of care shall not have his testimony excluded on the ground that he does not practice in this Commonwealth." (H.B. 698)

3. Evidentiary Matters

North Carolina has enacted legislation, effective October 1, 1981, abolishing the requirement that expert testimony be in response to a hypothetical question. Now, an expert simply may testify in the form of an opinion "[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue . . . ." (H.B. 394)

A *Rhode Island* law, effective May 12, 1981, provides that "[t]he failure of a health care provider to bill a patient for services rendered shall not be construed as an admission of liability and shall not be admissible in evidence as to liability . . . ." The Act further provides that "[a]ny advance payment for medical bills by a health care provider or by the insurer of a health care provider shall not be construed as an admission of liability . . . ." (H.B. 5914)

4. Collateral Source

New York's collateral source statute was amended in June 1981. Previously, evidence of indemnification from a collateral source was admissible in evidence to be accorded such weight as the trier of fact chose to ascribe to it. Now, if the court finds that any cost or expense for medical care, custodial care, rehabilitation services, loss of earnings or other economic loss was replaced or indemnified from any collateral source (*e.g.*, insurance, social security, worker's compensation or employee benefit programs), "it *shall* reduce the amount of the award by such finding, minus an amount equal to the premiums paid by the plaintiff for such benefits for the two-year period immediately preceding the accrual of such action." (Emphasis added) (Assembly Int. No. 7741-A)

5. Certificate of Meritorious Claim

North Dakota law now requires an expert opinion before initiating an action based upon medical professional negligence, except in obvious cases. Specifically, an action for professional negligence is subject to dismissal unless the claimant "has obtained an admissible expert opinion to support the allegation of professional negligence within three months of the commencement of the action or at such later date as set by the court." The Act is inapplicable to claims involving: alleged lack of informed consent; unintentional failure to remove a foreign substance from within the body of a patient; performance of a medical procedure upon the wrong patient, organ, limb or other part of the patient's body; or other obvious occurrence. (H.B. 1619)

6. Insurance

Nevada law now requires health professional liability insurers to report to the board which licensed the health practitioner, within 30 days, each settlement, award made or judgment rendered by reason of a claim, if the settlement, award or judgment is for more than $5,000. The insurer must give the name and address of the claimant and the practitioner, as well as the circumstances of the case. (If the practitioner does not have professional liability insurance, he is required to notify his licensing board in the circumstances and manner set out above.) Such reports become public records and must be made available for public inspection. The same *Nevada* Act allows boards which license health care providers to consider repeated malpractice, which may be evidenced by claims of malpractice settled against him, in determining whether the licensee is subject to disciplinary action. (A.B. 183)

Part B: Court Decisions

A number of important court decisions have been rendered during 1980 and 1981 relating to the constitutionality of tort reform laws. As with legislative activity, the focus of many of these decisions is on pre-trial screening panels. However, the cases also analyze statutory provisions relating to attorney's fees, statutes of limitation, recovery limitations, etc. A summary of selected decisions follows:

Colorado

In *Mishek v. Stanton,* decided September 8, 1980, the plaintiff argued that the six-year maximum statute of limitations applicable only to medical professionals violates the constitutional guarantee of equal protection and constitutes impermissible special legislation since "no reasonable basis exists for separating medical and healing professionals from other professionals and lay persons and granting them the special protection afforded by the six-year maximum statute of limitations." The Colorado Supreme Court rejected the argument outright, relying on their previous decision in *McCarty v. Goldstein,* 376 P.2d 691 (1962). (616 P.2d 135 (1980))

Florida

In *Pinillos v. Cedars of Lebanon Hospital Corp.,* decided June 18, 1981, the Florida Supreme Court upheld a statute applicable only to health care provider defendants which requires that malpractice judgments be reduced by the amount that the victim receives from collateral sources. The court noted that the Act was a legitimate attempt to protect the public health by ensuring the availability of adequate health care for Florida citizens. The Court's decision was influenced by certain legislative policy statements in the preamble to the Florida Medical Malpractice Reform Act: that there was a professional liability insurance crisis in Florida; that professional liability insurance premiums were rising at a dramatic and exorbitant rate; that insurance companies were withdrawing from the professional liability insurance market; that the insurance costs of medical specialists were extremely high; that some of the increased premium costs were being passed on to the public in the form of higher health care costs; and that, in response to this malpractice insurance crisis, some physicians were downgrading their specialties in order to obtain relief from high insurance premiums, thereby threatening the public health. (403 S.2d 365 (1981))

On February 28, 1980, the Florida Supreme Court struck down the Florida statute creating medical mediation panels because, in the court's words, the Act had proven to be "arbitrary and capricious" in its operation. The basis for the Court's decision in *Aldana v. Holub* was the provision of the Act that the jurisdiction of the mediation panels extended only for 10 months after the claims were filed. If a hearing was not held within that period, even though it was through no fault of the parties, the parties lost their right to mediation. This result, which occurred in more than 50% of the cases, was unacceptable to the court and prompted its decision to strike down the statute. (381 S.2d 231 (1980))

Indiana

The Indiana Medical Malpractice Act was upheld as constitutional in *Johnson v. St. Vincent's Hospital, Inc.,* decided by the Supreme Court of Indiana on May 16, 1980. Among other things, the court concluded that: (1) The requirement that a malpractice claim be submitted to a medical panel for an opinion did not violate a patient's right to trial by jury or his right of access to the courts; (2) The limitation on recovery in malpractice cases to $500,000 was consistent with the rights of due process and equal protection, and did not violate a patient's right to trial by jury; and (3) The patient's compensation fund, administered by the Indiana Insurance Commissioner, did not violate the Indiana constitutional provision that the credit of the state not be given or loaned in aid of any person, association or corporation. (404 N.E.2d 585 (1980))

In *Rohrabaugh v. Wagoner,* decided December 29, 1980, the Supreme Court of Indiana considered, and rejected, a challenge to the constitutionality of the statute of limitation provisions of the Indiana Medical Malpractice Act of 1975. The challenged provisions, applicable only to medical professional liability claims, require children between the ages of six and twenty-one to institute their claims within the same period of time as adults, two years from the date of the alleged negligence. The plaintiff, a minor between the ages of six and twenty-one, argued that the two-year limitation upon medical professsional liability claims denies minors equal protection of the law. While noting that "this measure is a stern one and will have harsh application in individual cases," the court nevertheless upheld the statute since "there exists a reasonable basis for the Legislature to strengthen the statute of limitation in malpractice cases . . . ." Specifically, the court felt that the legislature could reasonably have concluded that this statutory change was necessary "because of actual and threatened loss to the health care industry of malpractice insurance at a reasonable cost" which had resulted in the reduction of health care services. (413 N.E.2d 891 (1980))

Iowa

In *Rudolph v. Iowa Methodist Medical Center,* decided June 18, 1980, the Iowa Supreme Court upheld a statutory provision which purported to nullify, at least partially, the collateral source rule in cases involving claims against designated health care providers. While acknowledging that the statute had the effect of treating medical malpractice victims differently from other tort victims, the court felt that the statute was rationally related to a legitimate state interest: ensuring available and affordable malpractice insurance. (293 N.W.2d 550 (1980))

Kansas

In *Stephens v. Snyder Clinic Association,* decided July 17, 1981, the Kansas Supreme Court upheld a statutory provision which established a shorter statute of limitation for claims arising out of the rendering of or failure to render professional services by a health care provider. The plaintiff had argued that the statute favors health care provider defendants and thereby creates a classification which is arbitrary and discriminatory. However, the court found the classification to be permissible in light of the rapidly rising cost of medical malpractice insurance and the increasing reluctance of insurance underwriters to underwrite medical professionals. It viewed the statute as an "obvious compromise to assure continued availability of malpractice insurance while protecting the injured parties' causes of action." (631 P.2d 222)

Montana

In *Linder v. Smith,* decided June 10, 1981, the Montana Supreme Court upheld the constitutionality of the state Medical Malpractice Panel Act, with the exception of one provision which provided that no statement made by any person during a hearing before the panel could be used as impeaching evidence against that person in court. The court felt that such a provision prevents the parties from fully cross-examining witnesses at trial, thereby depriving them of a full and fair hearing. Other objections to the panel act were rejected, the court holding it did not violate the right to trial by jury since the panel's decision was inadmissible at trial, and the delays and expense imposed by the Act were reasonable in light of the malpractice crisis. (629 P.2d 1187)

New Hampshire

The New Hampshire Supreme Court struck down several key provisions of the New Hampshire Act in *Carson v. Maurer,* decided December 31, 1980. Perhaps most interesting were the following conclusions: (1) The three provisions limiting damages unreasonably discriminated in favor of health care defendants, denying malpractice plaintiffs equal protection; (2) The regulation of attorney's fees only in the area of medical malpractice created a potential impediment to access to the courts for injured persons since attorneys would be less likely to accept such cases; and (3) Regulation of attorney's fees for medical malpractice plaintiffs and no other plaintiffs denied medical malpractice plaintiffs equal protection. (424 A.2d 825)

Ohio

In *Beatty v. Akron City Hospital,* decided August 12, 1981, the Ohio Supreme Court upheld a key provision of the Ohio Medical Malpractice Act providing that after a medical claim is submitted to an arbitration board for consideration, the arbitrators' report may be admitted as evidence in a jury trial. The plaintiffs had argued that the section violates the constitutional right to trial by jury and the constitutional guarantee of equal protection. The Ohio Supreme Court rejected both arguments, concluding: (1) The submission of the panel report to the jury did not violate the right to a fair and impartial jury since the report was merely additional evidence for their consideration and was not binding on them; (2) The statute did not violate the equal protection guarantee since there was a rational basis for differentiating medical claims from other tort actions, namely, the "dramatic rise in the cost of medical malpractice insurance." (424 N.E.2d 586)

Pennsylvania

In *Mattos v. Thompson,* decided September 22, 1980, the Pennsylvania Supreme Court struck down the arbitration process created by the Pennsylvania Health Care Services Malpractice Act. After reviewing a statistical analysis of claims filed, the court concluded that the delays involved in processing claims under the arbitration procedure impermissibly infringed upon the constitutional right to a jury trial. Furthermore, the court felt that the arbitration panels provided for under the Health Care Services Malpractice Act were "incapable of providing the 'prompt determination and adjudication' of medical malpractice claims which was the goal of the Act." Notwithstanding those conclusions, the court stressed that it was confident that "arbitration is still a viable alternative that can be effective in many areas." (421 A.2d 190)

Summary

These cases, while not an exhaustive collection, indicate the varying attitudes held by state supreme courts toward tort reform legislation. By and large, the decisions often rest on the issue of whether the unique problems presented by the medical malpractice crisis justify the statutory enactments treating medical claims differently from other tort claims. The various state courts are divided on this question and it is still too early to predict which way the judicial pendulum will swing in the coming years.

Health Insurance

Update on Comprehensive and Catastrophic Health Insurance Laws

The following information relates to recent developments in states with comprehensive and catastrophic health insurance laws. For additional information, see

State Health Legislation Report, Vol. 8, No. 3 (September 1980).

Connecticut

In 1975, *Connecticut* enacted a comprehensive health insurance program, under which insurers are required to make available individual and group comprehensive health care plans as defined by state law. Carriers can comply with this requirement by participating in the Health Reinsurance Association. As a practical matter, most or all of the commercial insurers write health insurance for high risk individuals through the Association rather than directly.

The following table indicates the number of individuals covered by comprehensive health care plans issued by Blue Cross and Blue Shield of Connecticut, Inc. and the Health Reinsurance Association, as of December 31, 1980:

	$200 deductible	*$500 deductible*	*$750 deductible*	*Total*
Blue Cross	4,905	1,713	1,042	7,660
Health Reinsurance Association	891	270	487	1,648

Hawaii

Hawaii's Prepaid Health Care Act, effective January 1, 1975, provides for comprehensive health insurance by requiring employers with one or more employees to provide health care coverage meeting certain standards and to pay at least one-half of the premium cost. The U.S. Supreme Court recently affirmed a lower court decision that the Act is preempted by the federal Employee Retirement Income Security Act. *Standard Oil Co. v. Agsalud,* No. 80-1841 (October 5, 1981).

Minnesota

The *Minnesota* Comprehensive Health Insurance Act of 1976 provides for certification of health insurance plans as qualified if they include coverage providing certain minimum benefits. Insurers are required to offer qualified plans.

The Act established the Minnesota Comprehensive Health Association, in which all carriers participate. The Association offers insurance coverage to a variety of statutorily defined persons, primarily high risk individuals. At the end of August 1981, the Association had in effect a total of 2,656 policies of the following types:

$1,000 deductible	588
$500 deductible	1,728
Medicare Supplement	340

Minnesota's Catastrophic Health Expense Protection Program (CHEPP) was enacted in 1976 and became effective July 1, 1977. The program provided for state payment of catastrophic health expenses not covered by other insurance and after expenditure of a certain percentage of household income.

Concern arose that since a potential beneficiary's assets were not considered in determining eligibility, the financial test relying solely on income was an insufficient measure of need. This appears to be among the reasons why in the spring of 1981, the Minnesota legislature repealed the CHEPP law, although the state committed itself to pay for services rendered to eligible individuals before June 30, 1981.

Rhode Island

The *Rhode Island* Catastrophic Health Insurance Program (CHIP) was enacted in 1974 and became effective January 1, 1975. The express purpose of this state funded plan is for state residents to have access to needed diagnostic, curative, and rehabilitative health services at reasonable costs and to have reasonable means of protecting themselves against unusually high costs of receiving such health services. The law provides for the state to pay for the costs of designated health services for an eligible person when such costs are determined to be catastrophic.

On July 1, 1980, the responsibility for the administration of CHIP was transferred from the Department of Administration to the Department of Health. Several other legislative changes became effective on this date; among those are some which were recommendations of the Special Legislative Commission on CHIP:

- The Director of the Department of Health is charged with establishing guidelines for the review and evaluation of cases serviced under CHIP, and with the review and evaluation of the appropriateness of medical treatment.
- The Director of the Department of Mental Health, Retardation and Hospitals is charged with providing to the Department of Health written criteria for the review of psychiatric services, and with the review and evaluation of the appropriateness of psychiatric treatment for cases which are referred by the Director of the Department of Health.
- The list of eligible health services covered by CHIP was added to the law itself.

Following is a summary of program experience, taken from the annual report for fiscal year 1980:

> The number of eligible families increased to 516, an increase over the previous year of 12% and family members eligible for benefits increased 10% to 1,239. New applications advanced 3%, while the average family expenditure covered by CHIP was $4,499, a 3% increase from 1979 . . . . The three leading causes of disability were diseases of the circulatory system (25% of the total), mental disorders (18%) and diseases of the genitourinary system (13%). Medicare recipients comprised 52% of the total applicants, while 6% had no insurance, 9% had commercial insurance coverage and the remainder were Blue Cross subscribers.

Additional information from the annual report indicates that claims expenditures for FY '80 were $2.3 million, compared to $2.2 million the previous year. The average deductible before CHIP began paying was $1,470 for new applicants.

A descriptive analysis of CHIP by the National Center for Health Services Research, entitled "The Rhode Island Catastrophic Health Insurance Program: The First Three Years," and published February 1981, concluded the following:

- While all age-sex groups were represented among CHIP recipients, people over 44 years of age were "overrepresented."
- No income group and no insurance coverage group was immune from catastrophic out-of-pocket expenditures.
- Low-income groups and the uninsured were more likely to qualify for CHIP relative to their proportion in the population.
- Medical conditions accounting for catastrophic expenditures included not only "dread" diseases such as cancer and heart disease, but mental illness, normal delivery, and appendectomy.

Risk Pooling Laws

Six states *(Connecticut, Indiana, Minnesota, North Dakota, Rhode Island,* and *Wisconsin)* have legislation creating or authorizing a risk sharing or reinsurance association to offer health insurance at a reasonable cost to persons who are high risk or "uninsurable" by conventional underwriting standards.

While some of these laws provide that self-insurers are to participate in the risk sharing association, the states are effectively precluded from enforcing such requirement by the federal Employee Retirement Income Security Act, which preempts state regulation of self-insurers.

Following is a summary of the state laws on this subject:

Connecticut (1975)—The Health Reinsurance Association is composed of all commercial insurers doing business in the state, and offers health insurance coverage to persons otherwise unable to secure insurance. Premium rates are between 125% and 150% of average group rates. Carriers have the option of providing insurance to high risk individuals directly rather than through the Association. Blue Cross/Blue Shield of Connecticut, Inc. does not participate in the Association, but offers individual health insurance to state residents, regardless of risk or health condition. (See page 13 for additional information.)

Indiana (1981)—The Indiana Comprehensive Health Insurance Association is a nonprofit legal entity composed of health insurance carriers, prepaid health care delivery plans, and self-insurers not exempt from state insurance regulation through action of federal law or which are political subdivisions of the state. The Association is to issue policies of health insurance to state residents who have been rejected by two carriers for coverage substantially similar to the Association plan coverage at a rate equal to or less than the Association plan rate. Association rates are limited to 150% of the average premium rate for a particular classification.

Minnesota (1976)—All insurers, fraternals, and health maintenance organizations licensed or authorized to do business in the state are required to be members of the Minnesota Comprehensive Health Association. The Association offers insurance coverage to persons rejected (or otherwise unable to obtain "normal" coverage) by at least two insurers. Premium rates are limited to 125% of average rates for similar coverage. The Act provides that not less than 87.5% of the state plan premium is to be used to pay claims. Association members share additional claims expenses of the plan. (See pages 6 for additional information.)

North Dakota (1981)—A comprehensive health association is composed of insurers with an annual premium volume of accident and sickness insurance contracts, derived from or on behalf of state residents, of at least $100,000. The Association is to offer a policy of comprehensive health insurance coverage to persons rejected (or otherwise unable to obtain "normal" coverage) by at least two insurers. Premium rates are to be designed to be self-supporting. The Act provides that not less than 87.5% of the Association plan premium is to be used to pay claims. Association members share additional claims expenses of the plan.

Rhode Island (1974)—Commercial insurers and self-insurers are authorized to form a reinsurance pool. Any agreement to form such a pool must be approved by the director of the department of business regulation, as well as premium rates charged thereunder.

Wisconsin (1980)—Legislation established the Mandatory Health Insurance Risk Sharing Plan, which offers health care insurance to persons unable to acquire coverage at a reasonable cost from private insurers. All insurers, including HMO's, are required to participate in the costs of administering the plan and paying for claims. Premium rates are to be designed to be self-sufficient, except that for the first three years of operation, rates are to be no greater than 130% of rates for standard risks under an individual policy. On September 30, 1981, the U.S. District Court for the Eastern District of Wisconsin held that this law is preempted by the federal Employee Retirement Income Security Act as to self-insurers. (*General Split Corp. v. Mitchell,* 522 F. Supp. 427.)

Principles for Voluntary Medical Peer Review: An Interim Report

AMA COUNCIL ON MEDICAL SERVICE

Current AMA Policy

At the 1980 Interim Meeting, the House of Delegates adopted the following statement:

> "The current Association policy shall be to continue professionally directed efforts to ensure that care provided to patients is of high quality, appropriate duration and is rendered in an appropriate setting at a reasonable cost and to encourage the elimination of all government directed peer review programs, including PSRO."

In view of this charge, the Council on Medical Service began to examine alternative quality assurance mechanisms and methodologies now available and operating under professional direction. The Council identified a series of review models, including both hospital and ambulatory-based programs.

At the 1981 Annual Meeting, the House adopted Substitute Resolution 4 which further defined Association policy in support of non-governmental peer review programs by calling for the AMA to take a leadership role in collaboration with all units of the Federation in developing and promoting effective means of physician assessment of the quality of medical care. Furthermore, the House reiterated that physicians should maintain control and direction over peer review, which should be done only by physician-sponsored organizations, regardless of the funding source.

The fifth "resolved" from Substitute Resolution 4 was referred to the Board of Trustees and subsequently to the Council on Medical Service for further study. The fifth "resolved" of Substitute Resolution 4 stated:

> "That since the quality assurance program for hospitals as devised by the Joint Commission on Accreditation of Hospitals and medical care foundations utilized effectively by many states are proven mechanisms for providing physician peer review, the House of Delegates requests the Board of Trustees to investigate expanded use of these methods and assist actively in the formation of medical care foundations, or similar organizations, in states where they do not now exist, if requested by the state society."

Accordingly, at its August meeting, the Council on Medical Service met with representatives from the American Association of Foundations for Medical Care. The Council learned of and is impressed by the nature and extent of foundation peer review activity at the present time, and has taken into consideration foundation sponsored activities in developing this report. The Council believes, however, that it would not be appropriate at this time to recommend foundation type review as *the* mechanism of choice until more generic peer review principles have been adopted.

The quality assurance program for hospitals under the Joint Commission on Accreditation of Hospitals has also been examined. The Council has been advised that the JCAH is currently reviewing all of its standards for hospitals, including the quality and appropriateness elements in each standard and will keep abreast of the status of this review.

In summary, the Council recognizes that a variety of peer review systems already exists across the country. In some areas where government-sponsored review organizations are being terminated, opportunities will exist for the development of new peer review mechanisms. However, other sections of the country may elect to maintain their present system of peer review, and re-evaluate their structure and mode of operation in light of the increasing demand and changing needs for review services by local and state government, business and insurers. In this pluralistic environment of peer review systems, the Council believes that the Association can best fulfill a leadership role through the development and dissemination of "medical peer review principles" that are generic and therefore apply to any review system. Accordingly, the Council has developed the following set of principles for voluntary

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EDITOR'S NOTE: This is a report of the AMA Council on Medical Service to the House of Delegates at its Annual Meeting in 1981.

medical peer review, and believes that each of these principles should be found in any organization or system which has as its objective the assessment of the quality of medical care.

Definition of Medical Peer Review

In 1971, the Council on Medical Service developed a definition of peer review. That definition as adopted by the House of Delegates is as follows:

> "Peer review, the evaluation by practicing physicians of the quality and efficiency of services ordered or performed by other practicing physicians, is the all-inclusive term for medical review efforts. Inpatient hospital and extended care facility utilization review; medical audit; ambulatory care review and claims review are all aspects of peer review."

The Council believes that this definition continues to be appropriate.

It should be noted that this concept is distinct from the concept of review and supervision by physicians of medical care provided by allied health personnel. That concept is also supported by AMA policy.

Principles for Voluntary Medical Peer Review

Physicians have traditionally had the ethical and professional obligation to assure the quality of the medical care services they render to patients and more generally to the public at large. The *Current Opinions* (1981) of the AMA's Judicial Council states that, "medical society ethics committees, hospital credentials and utilization committees, and other forms of peer review have been long established by organized medicine to scrutinize physician's professional conduct. At least to some extent, each of these types of peer review can be said to impinge upon the absolute professional freedom of physicians. They are, nonetheless, recognized and accepted. They are necessary. They balance the physician's right to exercise his medical judgment freely with his obligation to do so wisely and temperately." Thus, the obligation to assure the quality of medical care services rendered to patients remains the comprehensive and underlying concept of any set of principles for medical peer review.

These principles are applicable to any medical peer review system.

1. *Medical peer review is an organized effort to evaluate and analyze medical care services delivered to patients and to assure the quality and appropriateness of these services. Peer review exists to maintain and improve the quality of medical care.*

Any medical peer review system must have structure and organization to ensure consistency in evaluation. Such a system of review can be as elaborate as a national review program or as simple as a hospital tissue committee. Medical peer review should encompass all medical care delivered to patients. The review process should employ similar procedures for all patients, regardless of the payor. Medical peer review exists to maintain and achieve demonstrable improvements in the overall quality of medical care. Other objectives including research in medical care are secondary.

2. *Medical peer review is a local process.*

The implementation of any medical peer review system should be carried out at the local medical community level, allowing for the necessary variation and flexibility of review systems which can accommodate the uniqueness of each locale. Medical community, in this context, could connote a specific geographic area or any natural medical service area.

3. *Physicians are ultimately responsible for all peer review of medical care.*

The responsibility for medical peer review is that of the physician and cannot be delegated to others. However, any part of the task of performing the review may be delegated, at the discretion of the local peer review organization.

4. *Physicians involved in peer review should be representatives of the medical community; participation must be structured to maximize the involvement of the medical community. Any peer review process must provide for consideration of the views of individual physicians, groups of physicians or institutions under review.*

Each physician who participates in the peer review process serves as a representative-at-large of the general population of physicians in the community. Generally, "peer" review is achieved when physicians of any specialty review the medical care rendered by other physicians. However, there may be instances where consultation with specialists or subspecialists is necessary. Any peer review system should be designed to maximize the participation of all physicians, and a process that provides for participation on a rotating basis is desirable. Any peer review process should incorporate an opportunity for dialogue between the reviewers and the reviewed. Therefore, the process should include the views of individual physicians or groups of physicians under review. In this context, "institutions under review" refers to the medical services delivered to patients in the institutional setting.

5. *Peer review evaluations are based on appropriateness, medical necessity and efficiency of services to assure quality medical care.*

Appropriateness is a broad term that connotes that the medical care provided is suitable for a particular episode, condition or setting. In evaluating medical necessity, it is important to specify what "need" is being considered, by what criteria the need is to be established and what effect the service has on the patient. Efficiency in Medical care can be defined as the relationship between resources expended in a given case and those expended in a large number of similar cases in which the outcomes were acceptable. Evaluations based on efficiency will inherently include considerations of the quality of care provided. All of these features enhance the accountability of the medical peer review process to the public and the profession.

6. *Any system of medical peer review must have established procedures.*

Procedures constitute the rules by which an organization operates. A system of medical peer review must have standardized operating procedures which are developed locally by physicians. These procedures should ensure that the process is consistent and equitable.

7. *Peer review of medical practice and the patterns of medical practice of individual physicians, groups of physicians and physicians within institutions is an ongoing process of assessment and evaluation.*

Peer review is a continuing process of investigating, identifying and then correcting inappropriate patterns of medical practice. This systematic approach may be concurrent or retrospective, using chart or claims based review. The *results* of peer review within an institution should be evaluated by physicians of that medical community, but outside of the facility under review, except where the small size of a community may preclude such external evaluation.

8. *Peer review is an educational process for physicians to assure quality medical services.*

Peer review exists to maintain and achieve demonstrable improvements in the quality of medical care. Peer review is also an educational process for physicians which simultaneously fulfills an obligation to the patient to provide the highest possible quality care. Medical peer review should help to improve continuing medical education by linking the results of review to specific educational activities. This process should allow each physician to compare his patterns of practice with his peers and should provide an opportunity for self-improvement. Every physician should participate in medical peer review activities.

Unfortunately, some physicians may not respond to education or opportunities for self-improvement. However, recognizing the sensitivities of peer review at this stage in the process, every attempt should be made to encourage the physician's further education and improvement. According to the *Current Opinions* (1981) of the AMA's Judicial Council, "a physician should expose, without fear or favor, incompetent or corrupt, dishonest or unethical conduct on the part of members of the profession. Questions of such conduct should be considered, first, before proper medical tribunals in executive sessions or by special or duly appointed committees on ethical relations, provided such a course is possible and provided, also, that the law is not hampered thereby."

9. *Any peer review process must protect the confidentiality of medical information obtained and used in conducting peer review.*

An effective peer review process requires maintaining the confidentiality of patient, physician and hospital-specific data. Maximum safeguards must be placed on medical information generated by the deliberations of peer review meetings in order to protect the integrity of the peer review process. In the event that no state statutory mechanisms exist to protect this information from disclosure, every attempt should be made to get such statutes enacted.

The Association has been very active in this area. The Joint Report of the Board of Trustees and the Council on Medical Service, "Evaluation of AMA Policy on Confidentiality," is also before the House at this session. That report describes in considerable detail Association policy on confidentiality, and specifically, the Association's ongoing attempts through model legislation and other means to protect the confidentiality of information generated in the peer review process.

Conclusion

In developing these principles for medical peer review the Council recognizes that peer review is a complex, multi-faceted process which may require differing approaches in individual communities. These principles in their entirety are intended to be a reference point in the design of such peer review systems.

The Council intends to continue to develop materials to assist physicians in fulfilling their responsibility for peer review and will make further recommendations on the subject of peer review.

Analyses of End-Stage Renal Disease

CONGRESSIONAL OFFICE OF TECHNOLOGY ASSESSMENT

The Congressional Office of Technology Assessment (OTA) has released a case study which examines the use of formal analysis in shaping Federal Government policy on the treatment of end-stage renal disease (ESRD). The term "formal analysis" includes cost-effectiveness analysis (CEA), cost-benefit analysis (CBA), risk-benefit analysis, and cost analysis.

The case study was prepared for OTA by Dr. Richard A. Rettig of the Rand Corporation. It is one of 17 case studies that comprise Background Paper #2 to OTA's assessment of "The Implications of Cost-Effectiveness Analysis of Medical Technology." The overall project was requested by the Senate Committee on Labor and Human Resources.

The number of dialysis patients in the Medicare program has risen dramatically from 14,000 in 1973 to 50,000 in 1978. The case study emphasizes that Federal Government policy on the treatment of ESRD has been governed by two overriding considerations: its lifesaving capability and its cost. The case study concludes that despite formal analysis, the ESRD policy issue remains a basic political choice between the large cost implications of a national treatment program on one hand, and the value of human life on the other. However, formal analysis may have raised the consciousness of high-level policymakers as to cost implications.

The case study deals primarily with the impact on Federal Government policy of two formal analyses of ESRD issued in 1967. One of these, the Gottschalk report, was prepared by an expert advisory committee convened to help the Bureau of the Budget (BOB) develop a national approach to ESRD. This need to establish a national policy was mainly the result of a budget request from the Veterans Administration (VA) for funds to create dialysis units in several VA hospitals and for additional funds to staff these units.

The Burton report, the second analysis, was the work of a Public Health Service (PHS) task force for the U.S. Surgeon General. Both the Gottschalk and Burton reports were an integral part of the ESRD policy formulation process in 1966-1967.

The case study describes the events that led to the conduct of the two formal analyses, and summarizes the results of the CEA in the Gottschalk report and of the CBA in the Burton report. According to the case study, the Gottschalk report recommending a national ESRD treatment program had a greater impact than the Burton report. One major impact of the Gottschalk report was BOB's decision to fund a VA home dialysis program that included a large portion of the VA dialysis patients. A secondary effect was to encourage the VA to develop its transplantation program in a select number of VA hospitals and to advocate transplantation programs within the PHS as well. According to the case study, the Burton report had no direct program effects.

OTA is a nonpartisan congressional support agency which analyzes complex issues involving science and technology for both Senate and House committees. OTA does not advocate particular policies or actions.

This case study has been prepared by the Office of Technology Assessment, established by the U.S. Congress as a resource to its members.

The OTA case study, "Formal Analysis, Policy Formulation, and End-Stage Renal Disease," is available at the U.S. Government Printing Office (GPO), Superintendent of Documents, Washington, D.C. 20402. The GPO stock number is 052-003-00809-2; the price is $2.50.

Current Medicolegal Issues

THE CITATION—AMA

U.S. Liable To Parents Of Deformed Child For Failure To Warn Of Rubella

The government was liable to the parents of a rubella syndrome child for negligence in failing to advise the pregnant mother that she had a positive rubella test, a federal appellate court in Illinois ruled.

The child's father was an enlisted man in the Army stationed at Fort Rucker, Alabama. The mother contracted a rash and fever when she was about one month pregnant. She visited the OB-GYN clinic at the base and was told that the rubella test was negative. A second test a few days later was positive, but the mother was never informed of that result. She returned to the clinic regularly for routine examinations during her pregnancy, but was never advised of the serious consequences that the rubella virus could have on her unborn fetus.

The child was born on January 12, 1973. At the time of her birth, the child had a rash all over her body. She also had loss of hearing, bilateral cataracts, a slight heart defect, and possible mental retardation—all common symptoms of a rubella syndrome child. The parents filed an action under the Federal Tort Claims Act based on the clinic's negligence in failing to diagnose the rubella and to inform the parents of the possible harm to the fetus. A trial court awarded the parents $900,000, and the government appealed.

Affirming the decision, the federal appellate court said that the parents could recover for the wrongful birth of their child. The military clinic staff's negligence was the proximate cause of the parents' injuries. The standard of care was established by expert testimony, and the amount of damages was properly split between the two parents, the court said.

In addition, the federal appellate court held that the trial court should not have ordered the 25 per cent attorney's fee award to be paid proportionately as funds were withdrawn from a reversionary trust set up with the award of damages. —*Robak v. U.S.,* 658 F.2d 471 (C.A.7, Ill., Aug. 25, 1981)

Editor's Note: A prior decision in this case was reported in THE CITATION, Vol. 43, No. 5, p. 54.

Court Upholds Suit Against Physicians For Lack Of Genetic Advice

Two pediatricians may be liable to the parents of two children born with cystic fibrosis for negligence in failing to diagnose the condition of the first child in time to prevent the second pregnancy or to abort it, the New Jersey Supreme Court ruled.

The pediatricians treated the first child from May 1970 until September 1974. During that time they failed to diagnose the infant's condition as cystic fibrosis. The proper diagnosis was not made until the mother was in the eighth month of pregnancy with the second child. A month after learning her first child suffered from cystic fibrosis, the mother gave birth to the second child, which also suffered from the disease.

A trial court denied the physicians' motion for summary judgment in a malpractice action against them, but an appellate court reversed. The New Jersey Supreme Court said the physicians could not avoid liability for the expenses the parents would sustain in caring for the second child on the ground that the first child was their patient and their duty was to her and not to her parents.

Extending the physicians' duty to other family members, the Supreme Court said that they had a duty to disclose that the first child had cystic fibrosis. Their failure to diagnose the condition was a breach of their duty to the parents, the court said. If the parents were able to prove liability, the physicians could be held liable for the incremental medical costs of the second child, the court concluded.

The case was remanded for trial. —*Schroeder v. Perkel,* 432 A.2d 834 (N.J. Sup. Ct., July 15, 1981)

Parents Can Recover For Birth Of Child After Sterilization Procedure

The parents of a child born after performance of a sterilization procedure could not recover for future expenses of raising the child, but they could recover for (1) their emotional distress, (2) the mother's pain and suffering accompanying her pregnancy and delivery and wages lost during that period, (3) the father's loss of consortium, (4) the medical expenses due to the pregnancy and delivery, and (5) intentional performance of unauthorized surgery, a New Jersey appellate court ruled.

A physician allegedly obtained the mother's consent to perform a tubal ligation but instead performed another procedure, fallopian rings, without her consent. The mother later gave birth to a normal child.

The parents brought an action against the physician and the obstetrics and gynecology association where he was employed, seeking damages for pain and suffering resulting from the birth of the child, emotional upset,

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loss of income, and future cost of rearing the child. The father sought damages for loss of his wife's services and for medical expenses incurred for prenatal care and delivery of the child. The trial court denied a motion for summary judgment by the physician and the association, and limited the parents' damage claims to those for emotional distress.

On appeal, the parents contended that the trial court's action had denied them their constitutional right of due process. They also contended that the judge had erred in finding that their claims for medical expenses and child support were barred.

The appellate court found that the parents could not recover for future expenses incurred in raising, educating, and supervising the child. However, the court agreed with the parents that the judge erred in precluding recovery of damages for medical expenses. The court found that the mother could recover damages for the pain and suffering accompanying her pregnancy and delivery and for the wages she lost during that period and that the father could recover for loss of consortium and for medical expenses attributable to the pregnancy and delivery.

The court also found that the parents were entitled to recover damages for the physician's alleged performance of unauthorized surgery. If the parents could establish that the physician performed an operation different from that which the mother consented to and that this was a deviation from accepted standards of medical practice, they could recover damages resulting from such malpractice. The court remanded the case for further proceedings.—*P. v. Portadin,* 432 A.2d 556 (N.J. Super. Ct., App. Div., June 24, 1981)

New Trial For Patient Whose Leg Was Amputated

A patient was entitled to a new trial of a malpractice action against a physician who was allegedly negligent in treating an infection that later resulted in the amputation of his right leg, the Illinois Supreme Court ruled.

The patient's leg had to be amputated because of an infection by a pseudomonas organism after a bone fracture. A jury returned a verdict for the physician, and the patient appealed. The appellate court found that the trial court had committed reversible error and reversed the decision.

On appeal to the Supreme Court, the patient contended that he should have been awarded judgment in spite of the verdict because the physician failed to treat a "known infecting organism." However, the physician testified that he was attempting to treat the more virulent bacteria such as staphylococci and that pseudomonas was easily killed off by a healthy blood supply. There was also testimony that the infection could have been arrested and cured if the patient had checked into the hospital sooner.

The trial court properly instructed the jury on the issue of contributory negligence. The record revealed several actions by the patient that could have contributed to the nonunion of bones after the fracture and to ultimate amputation.

The Supreme Court said the trial court erred in admitting hospital records into evidence without proper foundation and permitting a hypothetical question based on those records. Over 100 pages of technical medical entries were placed into evidence without verification by the testimony of the person who made the entries. The court said that the case should be remanded for a new trial.

The Supreme Court adopted new procedural rules for future cases to permit hypothetical questions based on hospital records even if the hospital records were not admitted into evidence.—*Wilson v. Clark,* 417 N.E.2d 1322 (Ill. Sup. Ct., Feb. 3, 1981; rehearings denied, March 27, 1981)

Editor's Note: A prior decision in this case was reported in THE CITATION, Vol. 41, No. 5, p. 55.

Patient Who Fell Outside Office Sues For Injuries

A trial court should not have granted summary judgment in favor of a chiropractor in an action by a patient who was injured in a fall on a snow-covered walkway to the chiropractor's office, a Missouri appellate court ruled.

The patient fell on the sidewalk to the chiropractor's office on her way to a 9:00 a.m. visit on March 23, 1974. The patient and her husband testified that she arrived at 8:55 a.m. for the appointment. The chiropractor testified that he observed that the patient had fallen shortly after he arrived at his office at 8:30 a.m. A trial court granted summary judgment in favor of the chiropractor, and the patient appealed.

Reversing the decision, the appellate court said that there were genuine issues of material fact concerning the chiropractor's alleged negligence and the patient's contributory negligence. There was a dispute as to the time the patient arrived at the chiropractor's office and what he was preparing to do in regard to cleaning the walkway. There was also a question concerning the porch covering and whether it contributed to the conditions which caused the patient's fall. Those questions should have been resolved by a jury or a judge after hearing the evidence, not on a summary judgment motion, the court concluded.—*Lehman v. Hug,* 614 S.W.2d 732 (Mo. Ct. of App., March 2, 1981; rehearing denied, March 30, 1981)

Month in Washington

Federal health programs would be hard-hit under the budget resolution that House Republicans, bolstered by conservative Democrats, managed to push a "second-try" victory.

The budget vote of 220-207 was a major win for the Reagan Administration which had supported the GOP budget plan before the House. Since the Administration also had backed the Senate budget, the final outcome on the budget resolution will be satisfying to the Administration.

The big question, however, was whether the authorizing and appropriating committees this time around will abide by the budget restrictions contained in the resolutions.

The next step is for House and Senate conferees to agree on a compromise version of the budget that can win approval in both Houses.

On the broad scale, the House bill called for a $100 billion deficit next fiscal year, while the Senate bill contemplated a $116 billion deficit. The original Administration budget proposed a $122 billion deficit.

The House budget would freeze at current levels spending on discretionary health programs. Medicare projected outlays would be trimmed by $11.5 billion over the next three years; Medicaid, by $6.6 billion. The Senate budget reductions for the same period were $17.9 billion and less than $3 billion.

The final House Medicare figure was some $12 billion below the three-year-cut level of $23 billion contained in the GOP budget package that was voted down when the House first brought up the budget issue early in June only to have all plans before it turned down. The Republicans toned down the Medicare cuts and made other adjustments to help secure the votes for passage when the House brought up the budget for the second time.

Although the willingness of the respective committees to go along with the budget proposals remains in doubt, there is no question that the passage of the budget resolution puts increased pressures on the lawmakers to make large economy provisions for Medicare and Medicaid. Most of the Medicare "savings" in the two budget measures, which are fairly similar in this respect, come from reimbursement restrictions such as prospective payments to hospitals, delaying the annual physician fee screen by three months, elimination of the nursing differential, and bringing federal employees into Medicare for the first time (collecting several billions of dollars in Social Security taxes).

* * * *

Congress continues to move step-by-step closer to the enactment of cutbacks in Medicare despite wide concern with voter reaction in this election year.

Demonstrating that state-of-the economy sentiment and worry over budget deficits remain a paramount concern, Congress agreed on a budget resolution calling for deep reductions in projected Medicare expenditures. The Senate Finance Committee quickly followed up with legislation to carry out the cuts.

A favorable vote in the Republican-controlled Senate appears to have a good chance. But the House, in Democratic hands, might balk.

Most of the major health provider groups are lined up to fight many of the reductions with the argument that the cuts will force providers to shift more costs to the private sector patients. The American Association of Retired Persons also is preparing an all-out campaign against the economy moves.

The congressional budget resolution adopted after a long struggle called for $13.6 billion less spending for Medicare over the next three fiscal years than would occur without legislative changes. Medicaid would be trimmed by $2.2 billion. Discretionary health programs face a $3.4 billion loss over three years. For the most part, these "cuts" would not diminish spending from this year's levels; rather, the rate of increase would be pared.

The Senate Finance Committee showed it meant to hew the budget line by voting 13-6 for Medicare and Medicaid budget slashes as the first in a series of votes the committee is taking to carry out its responsibilities over a large share of the federal budget, including taxes.

One of the larger Medicare cuts made by the Finance Committee would have a direct impact on physicians' fees. The committee agreed to a proposal to provide no increase in the economic index for fees next fiscal year and only a five percent increase the following fiscal year. This was much tougher than the Administration's original proposal to hold the index next fiscal year to 5 percent. Some $320 million would be saved by this proposal, the panel estimated.

In addition, the special 100 percent reimbursement rate for inpatient radiology and pathology services would be reduced to 80 percent of reasonable charges after satisfaction of the annual deductible.

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Another provision of the bill tightens reimbursement for hospital-based physicians. The amount Medicare will recognize as the reasonable cost of physician services to providers would be limited. The Health and Human Services (HHS) Secretary was directed to issue regulations specifying conditions for reasonable charge payments which deal with the differences between medical specialties, particularly radiology, anesthesiology and pathology.

Medicare liability would be based on the lower of the actual cost of the services to the provider or a reasonable compensation equivalent.

The committee voted to prohibit reimbursement for assistants at surgery in hospitals with a surgical training program except under such medical circumstances as team physicians performing complex procedures such as coronary bypass operations; or concurrent care when a medical specialist also provides or is available to provide care during a surgical operation if the patient has another condition requiring care that the surgeon is unable to perform.

The brunt of the economies would be borne by hospitals. A more restrictive reimbursement formula for routine bed, board and nursing costs would save $670 million next fiscal year starting Oct. 1. The limitation would include ancillary costs such as lab services, X-rays, drugs, etc. The HHS Department was directed to come up with a prospective reimbursement plan within a year.

The private room "subsidy" would be eliminated.

One of the larger savings—$750 million—comes from a bookkeeping provision delaying final reimbursement for hospitals from the end of the current fiscal year until the next fiscal year.

Larger employers—those with 25 or more workers—would be required to offer employees aged 65 through 69 private medical insurance that would be first payor ahead of Medicare, estimated to save the government program more than $300 million a year.

The issue of bringing federal employees into Medicare and making them pay the Medicare tax, an Administration proposal, will be taken up later by the Committee. This would bring in $600 million to the Medicare fund.

The most sweeping Medicaid provision allows states to require beneficiaries to pay nominal co-payment amounts ranging from 50 cents to $3.00. Exempt would be ambulatory services for children and pregnant women.

* * * *

Major providers and insurers of health care registered sharp differences of opinion before Congress on the best approaches to dealing with the problems of rising Medicare costs and health care inflation generally.

The rifts appeared as the House Ways and Means Health Subcommittee opened hearings on proposals to save money in the Medicare and Medicaid program.

The subcommittee has before it the Reagan Administration's proposals to achieve savings in Medicare through a number of provisions, a fairly similar set of recommendations accompanying the House-passed budget, and plans offered by organized labor, the health insurance industry, and the American Hospital Association (AHA).

William Felch, MD, a member of the American Medical Association Council on Legislation, urged the subcommittee to use "extreme caution against undue cost-shifting" as it considers savings plans. Dr. Felch said that "dollar savings that are made from one pocket that just generate commensurate expenditures from another pocket are, at best, illusory. At worst, they can create hardships for some beneficiaries—a situation we all want to avoid."

The AMA witness criticized the proposed programs put forth by the AHA and the Health Insurance Association of America (HIAA) this year. Noting that the AMA has supported prospective Medicare reimbursement for hospitals on an experimental basis, Dr. Felch said, "it is another thing, however, to propose a single prospective reimbursement mechanism, such as that proposed by the AHA, to be imposed nationwide without any track record to justify it."

The AHA plan "could create serious inequities and disparities among hospitals and beneficiaries," according to the physician. "It has the potential for creating a two-class hospital system, with disruption in the physician-patient relationship," he said. Hospitals could be placed "at severe risk of inadequate funding based on budget demands," said Dr. Felch.

Turning to the HIAA plan, the AMA witness said it "looks to the single element of health care payment and fails to recognize other equally important issues such as the actual delivery of health care."

"Certain elements of the HIAA proposal appear to be little more than a reiteration of the discredited hospital cost containment plan that was considered by Congress during the Carter Administration," he said.

Declared Dr. Felch:

"Neither the AHA proposal . . . nor the HIAA proposal is an appropriate answer to Medicare's short or long-range problems. In the AMA's long-range development of national health policy, we have asked both the AHA and the HIAA to join with us. Through such cooperation we hope to be able to present Congress with a series of proposals that will work to resolve the short-term needs and offer solutions for the long-range needs."

The Federation of American Hospitals weighed in with strong criticism of the HIAA plan. FAH Executive Director Michael Bromberg issued a news release asserting that "the commercial health insurers' package of proposals is a classic example of a large industry trying desperately to use government to solve its problems."

Bromberg said commercial health insurers "are looking for a government bail-out of their industry. They also are trying to shift the losses they've incurred from fewer customers onto the shoulders of the hospital industry."

At the hearing, officials of AHA and HIAA briefly summarized their proposals. In addition, labor officials assailed the Administration's projected cutbacks and urged adoption of their sweeping price control, cost containment plan.

The AMA's Dr. Felch testified that "without a rethinking of how government should be involved with health care in this country Medicare and other governmental health care programs will only become large burdens that could further weigh upon the national economy."

He said this is why the AMA has embarked on a long-range study of federal health programs, "with an ultimate goal being the development of a national health policy."

For short-term purposes, the AMA recommended a list of Medicare program changes, including repeal of mandated state facility review, changes in reimbursement for inpatient radiology or pathology services, extension of the Medicare tax to federal employees, making Medicare second payor for the working aged, indexing the Part B deductible, repeal of the Professional Standards Review Organization program, coinsurance for home health services, elimination of the three-day prior hospitalization requirement for skilled nursing care, and elimination of the provider waiver of liability for uncovered Medicare services.

* * * *

The AMA has renewed its request that the Internal Revenue Service (IRS) treat hospital-associated physicians as independent contractors.

The issue "goes to the very heart of professionalism," said Jerald Schenken, M.D., a member of the AMA's Council on Legislation. Dr. Schenken told a House Ways and Means Subcommittee that there is no attempt by hospitals "to exercise any control or interfere in any way with the physician's independent exercise of medical judgment on behalf of an individual patient."

Dr. Schenken, who also was testifying on behalf of the American College of Radiology, the American College of Emergency Physicians, and the College of American Pathologists, noted that historically hospital-associated physicians have been considered by the IRS to be independent contractors under the common law "test of control" rules and have not been considered employees of hospitals.

In the late 1960's, the IRS began to enforce, often arbitrarily, a more stringent interpretation of the common law rules and attempted to reclassify many independent contractors, including physicians, as employees, according to Dr. Schenken.

In 1978, Congress imposed a temporary moratorium on IRS rulings on the issue. The current moratorium is due to expire next month. Legislation has been introduced to clarify the status of independent contractors. The AMA proposed amendments to the legislation to prevent "further unwarranted reclassification of physicians as employees" that "would disrupt long-standing independent contractor relationships."

* * * *

The American Medical Association charged that legislation before Congress to change tax treatment of pension plans is "highly discriminatory" against professional service corporations.

In a statement to the House Ways and Means Committee, the AMA said the measure (H.R. 6410) "imposes unequal and inequitable treatment on professionals, their employees and certain other providers of personal service."

The bill before the Committee, subject of a one-day hearing recently, reduces the maximum contribution to a defined contribution plan by one-third (to $30,000), reduces benefits from defined benefit plans (to $90,000), and eliminates the annual cost-of-living increases in these maximum allowances. Retirement plans for professional service corporations would be subject to the same rules as Keogh plans which would be liberalized by increasing the annual contribution limit to $30,000 a year.

The proposal was brought up less than two months ago. It has stirred a torrent of criticism from the business and professional communities. Full page advertisements appeared in leading newspapers recently featuring an open letter to President Reagan warning that "a disaster threatens America's private pension plans." The letter was signed by officials of the Chamber of Commerce of the United States, the National Association of Manufacturers, the National Small Business Association, the ERISA Industry Committee and the Association of Private Pension and Welfare Plans.

The Administration told the committee that the amount of tax-deferred income corporate pension plans provide executives is "overly generous," but at the same time it urged the lawmakers to proceed cautiously to avoid cut-backs in benefits for rank-and-file employees.

Patient Education: The Hospital's Role

Introduction

Interest in health education has been growing steadily over the last two decades. The reasons for this heightened interest include the following:

Emphasis on human rights. In a democracy, an individual's neglect of personal health and productivity places an unfair burden on the rest of society, which must not only provide for, but do the work of, that individual.[1] At the same time, the rights of the individual are highly prized. *A Patient's Bill of Rights,* published and supported by the American Hospital Association (AHA), clearly delineates the patient's rights to 1) receive information regarding diagnosis, treatment, and prognosis, 2) give informed consent before any procedure, and 3) expect continuing health care following discharge.[2]

Advances in medical know-how. Because of the increases in medical technology, diseases that once took thousands of lives are no longer life-threatening; some have ceased to exist. The major causes of death today in this country are heart disease, cancer, stroke, and accidents. Most experts now agree that, except in the elderly, many of these deaths can be prevented or, at least, delayed.[3] The principal threats to health used to be outside the control of the individual (such as epidemics of infectious diseases). Now, many diseases (heart disease, for example) are at least partly behavioral and thus to some degree avoidable through health education.[1]

Consumer awareness. Millions of Americans are seeking information and guidance on how to improve or maintain their health. Do-it-yourself health books and mass media articles, over-the-counter drugs, vitamins, health foods, and exercise facilities are million-dollar industries today. Behavior modification techniques and movements are eagerly sought out and embraced by persons wanting to stop smoking, drinking, or overeating.[3] These, too, have been packaged as programs and comprise significant industries.

Hospitals constitute the largest single entity within the health care industry in terms of expenditure for construction, maintenance, and operation.[4] It is not surprising, then, that hospitals are seen clearly as the focus of health care in the community. Most observers agree that the hospital, as that focus, has an obligation to initiate and implement health education programs.[5]

This view of the hospital is congruent with the fact that the hospital is the locus for health professionals—the place where all members of the health care team (including the patient) meet to work together. Increasingly, it has been recognized that poor communication among medical personnel results in insufficient communication with patients, leading to inadequate preparation of patients for surgery and the postoperative period.[6]

Patient vs Health Education

Health education is a general term defined by the American Hospital Association as a "planned process that entails the joint identification of needs, the exchange of knowledge and concerns, and the classification of personal responsibilities for health—all designed to encourage positive health practices and to improve the delivery of health care."[6]

Health education can be classified into primary, secondary, and tertiary health education.[7] Primary health education is the imparting of information and the encouraging of behavior necessary to maintain good health.[1] Primary education takes place before disease or illness occurs.[7]

Secondary health education is concerned with detection and treatment. It includes alerting the public to disease symptoms, motivating them to seek health care, and helping them appreciate the importance of follow-up and treatment.

Tertiary health education deals with knowledge about specialized medical, surgical, and/or rehabilitation services. The bulk of health education is tertiary, and is known as patient education.[7]

Other categories of health education include school health education, health education for the families of patients, and community or public health education.[6] Patient education itself can be divided into inpatient education and outpatient education.

While hospitals often do have screening and other types of preventative programs, they most often enter the health care picture when people are admitted as

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patients. Hence, the education of patients is the primary focus of the hospital's education activities.

Establishing a Program

In developing an education program for patients, the hospital faces many problems, including financing, personnel, structure, functioning, and evaluation.[5]

Financing. In 1976, the College of Medicine and Dentistry of New Jersey (CMDNJ) estimated that approximately $25,000 to $50,000 is needed to begin a patient education program for a medium-size hospital. Included are salaries for a full-time director or coordinator and a secretary, office space and equipment, and promotional activities. The amount needed for a hospital operating entirely on its own, without the advantage of being part of a state or regional system like in New Jersey, is obviously higher.[3]

When the American Hospital Association surveyed 6,000 community, nonfederal, and short-term general hospitals in 1975, 2,680 said their patient education programs met the survey definition of inpatient education: "educational activities with written goals and objectives for the patient and/or family during inpatient hospitalization." These 2,680 hospitals were used as the survey population.[8]

Of those hospitals with at least one patient education program, 58.7% stated that daily hospitalization rates were dollar sources for inpatient education. Only 25.9% of the hospitals budgeted funds for patient education, viewing it as integral to the responsibilities of staff or departments that already had budgets.[8]

Finding funds for patient education can be a major obstacle for hospitals. The most obvious source is third-party reimbursement, a type of funding that is becoming increasingly available.[3] It is likely that patient education will eventually be partly or completely reimbursed by the government or private insurance, provided that the patient education program is carried out by an accredited institution.[9]

Personnel. Health professionals within the hospital setting are needed to move into the role of patient educator.[4] Whose role is it to teach the patient? In 1965, the patient education activities of more than 1,200 nurses were documented by a questionnaire. The majority agreed that teaching was an important responsibility of the professional nurse, but that there was confusion about the professional nurse's formal teaching role, as well as a lack of preparation for this role.[6]

Fourteen years later, these problems still exist. In particular, teaching roles for physicians and for nurses, the two largest groups of health professionals, are not clearly differentiated. Further, nurses' degree of independence is in question. In hospitals, especially, nurses have been reluctant to assume a teaching role, largely because of the constraints of the medical model. In one survey of 4,505 community hospitals with no patient education programs, 42% cited the medical staff as a hindrance in developing such programs.[6]

"This confusion or overlapping of roles and responsibilities may be one of the major barriers to the development of formal patient education programs."

Generally, physicians are expected to do initial informing and teaching. Nurses often follow up, reinforcing the physician's initial instructions. This confusion or overlapping of roles and responsibilities may be one of the major barriers to the development of formal patient education programs.[6]

Suggested to solve the confusion over roles are 1) determination of who does what and 2) development of definite teaching plans and educational activities. Information can then be coordinated, with the result that the patient receives adequate information and no contradictory material is presented to the patient.[6] One method of assuring a coordinated approach is use of a patient card plan by both physicians and nurses. Such a document, because it contains all information given to the patient, assures continuity.

In the area of setting patient education policy, 17.2% of hospitals surveyed in the 1975 AHA survey had a committee assigned to that responsibility. Only 19.1% of these committees had as their sole concern patient education. Nurses were the health professionals most likely to be found on policy committees (93.7%), followed by physicians (71.8%), and administrators (57.3%). Nonprofessional volunteers were more likely to be on committees that had as their sole function patient education.[8]

Structure, functioning, and evaluation. Few hospitals have centrally organized and coordinated patient education programs.[2] Because most patient education is aimed at the person who comes directly to the physician with a specific complaint, patient education is generally tutorial, or one to one. Hence, the education tends to vary widely, and programs tend to be unstructured.

Four steps can be used to develop a structured patient education program.[10]

1. Identify the educational needs of the target group.
2. Set achievable educational and behavioral goals.
3. Develop content and teaching methods.
4. Build in evaluation tools.

Determining needs may be more difficult than it seems. The patient education team must determine for each group of patients which knowledge and skills are necessary, which are nice to know, and which are superfluous. Techniques to be used in making this assessment include interviewing and evaluating patients during routine care, looking at return rates, and looking at compliance with treatment regimens. Moreover, differences among individual patients must always be kept in mind. Such things as education level, age, general physical condition, and home situation are important to know about each patient.

The assessment of needs serves as a basis for setting goals. Goals are written as statements of broad general outcomes and then broken down into specific behavioral objectives. Behavioral objectives can range from compliance with a drug regimen to lowered levels of anxiety that allow the patient to function more effectively. These goals must be communicated, understood, and accepted by patient, family, and staff.

Teaching methods should be selected to suit the instructor's ability and knowledge, the patient's learning ability and needs, the type of objectives, and the time and place of the instructional situations.

Evaluation should be conducted from two viewpoints, one looking at the learner's progress and the other looking at the program's content and objectives. Both formal evaluation tools (written posttests, return demonstrations, oral reports, interviews) and informal methods (questions asked, responses made to questions, way of listening, degree of involvement) can be used to evaluate the progress of the patient and, where appropriate, of the family.

The program itself should be evaluated continually, with staff meetings for evaluation scheduled regularly. The program should be evaluated by patients, preferably in writing, as well as by the staff.

The 1975 AHA survey showed that most hospitals used obsevation of learner task performance to evaluate patient education efforts. Interviewing the attending physician was the least-used technique. The overwhelming majority of hospitals in the survey evaluated the impact of education programs before, not after, patient discharge from the hospital.[8]

According to Tom Christoffel, JD, Associate Program Director for Research and Evaluation, Quality Resource Center, Joint Commission on Accreditation of Hospitals, the primary focus of patient education evaluation is patient mastery of critical skills and information. A typical patient care audit calls for evidence in the medical record that the patients and/or their families demonstrate specific care skills and verbalize specific health knowledge.[11]

One model available to the administrator for identifying needs, establishing objectives, selecting methods, and implementing and evaluating programs is that developed by the Committee on Education Tasks in Chronic Illness, the American Public Health Association.[12]

"Surgery is one area in which patient education has been especially well received."

Patient Education Programs

Surgery is one area in which patient education has been especially well received. A study at a New York Medical Center revealed that most of the patients thought preoperative sessions were helpful in preparing them postoperatively. The great majority felt they had received at least adequate information during their preoperative period, especially from their surgeons.[6]

Although 52.9% of patients said possible complications of the operation had been discussed preoperatively, the following possible consequences of the surgery had not been[13]:

- Alteration of life-style
- Effects of anesthesia
- Financial burden of the surgery and hospitalization
- Physical impairment
- Death

Because response of patients to their preoperative education was positive, the author inferred that the patients preferred that these subjects be omitted from their education. The reluctance to discuss these areas of risk and anxiety appeared to be shared by the medical staff and patients.[13]

Persons undergoing ostomy surgery are one example of a patient population for whom educational efforts are especially important. This operation often brings about radical changes in life-style. Such subjects as equipment and appliances, irrigation, skin breakdown in the peristomal area, odor control, nutrition, travel, and sexuality, as well as other subjects related to the nature of the ostomy and how to manage it, must be dealt with.[14]

A hospital in an outlying residential area of New York City, Peninsula Hospital Center in Far Rockaway, has found that patient complaints, when properly received and studied, can become the basis for education. In answer to complaints, the hospital takes the opportunity to explain its policies and procedures. As a result, some traditional methods of practicing medicine have been reviewed in the light of patient sensitivity.[15]

A meeting between Peninsula Hospital Center employees and community residents led to a follow-up meeting with members of the emergency department. After it became apparent that many patients using the emergency room were unaware of its policies, an information booklet for patients receiving emergency care was prepared.[15]

Mercy Hospital in Cedar Rapids, Iowa, expanded its patient education program, thanks to 300 television sets. A regular schedule of patient education films is broadcast over the hospital's closed-circuit television channel. Most of the programs supplement patient education and orientation to the hospital. Patients then receive individual explanations by members of the medical and nursing staffs, thus still getting one-on-one attention.[16]

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Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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MANUSCRIPTS should be submitted to the Editor, J. Alfred Fabro, M.D., *CONNECTICUT MEDICINE*, 160 St. Ronan St., New Haven, CT. 06511. Manuscripts are received with the explicit understanding that they are not simultaneously under consideration by any other publication.

For pediatric patients, Mercy Hospital has a 20-minute orientation film, used extensively within and outside the hospital. Children and their parents can view the film and talk to hospital personnel before scheduled hospitalization. Because most children's major fears are of the unknown, the film is the ideal way to prepare children for their hospital experience.[16]

Piedmont Hospital, a 350-bed community hospital in Atlanta, developed a patient education program that pulls together the disparate efforts of three groups—physicians, hospitals, and service organizations. Physicians traditionally provide some patient education, but are hampered by lack of time and structure and inadequate educational materials and equipment. Hospitals also offer some instruction, but generally lose most patients when they leave the hospital. Service organizations like the American Heart Association have produced many materials, but do not have direct access to patients.[17]

A nurse at Piedmont Hospital with a background in in-service education was selected to coordinate and develop programs for chronic disease instruction and preventative medicine. In addition, a patient education committee was set up to oversee programs and suggest new directions.[17]

Priorities for the program were established by analyzing the most frequent hospital admitting diagnoses. Four methods for providing education were developed: materials (pamphlets and films), continuing individual and group patient programs (on diabetes, heart disease, weight control, smoking, and hypertension, for example), community programs, and closed-circuit television.[17]

In the first 2 years, 3,724 patients were instructed in the Piedmont Hospital program, and patient and physician reactions have been enthusiastic. Physicians perceive that much time has been saved, in-service education has been improved, and the public image of the hospital has been enhanced as a "health center" rather than as a disease-oriented facility.[17]

Benefits of Patient Education

In order to work, patient education must have a payoff, for the patient, for health care personnel, and for the hospital. Personnel in patient education programs for cardiac, diabetic, and other chronically ill patients have reported that such education 1) reduces the length of hospital stay, 2) increases patient compliance, 3) promotes appropriate use of health services, 4) results in less fear and more understanding and cooperation from patients, and 5) eases the load on the physician by having others explain medication and preoperative and postoperative procedures, and provide health counseling.[2]

"Patient satisfaction with services is the key to breaking the cycle of patient disgruntlement leading to missed appointments, resultant overscheduling of appointments, then to increased waiting time, and, finally, back to further patient dissatisfaction."

More specifically, the benefits of patient education include the following[18]:

Reduces missed appointments. Patient satisfaction with services is the key to breaking the cycle of patient disgruntlement leading to missed appointments, resultant overscheduling of appointments, then to increased waiting time, and, finally, back to further patient dissatisfaction. If patients understand the reasons for waiting and the procedures of the hospital or clinic, their grievances often disappear.

Reduces malpractice suits. Malpractice suits are more likely to result when patient-staff relationships are unsatisfactory. If medical staffs improve their communication of information to patients, patients will be more satisfied with the information they receive.

Engenders community support. Community support is really just an extension of support from individual patients. If people in the community have been satisfied with their own experiences in the hospital, they will respond more positively to the hospital's appeals.

Improves and speeds diagnosis. Health education benefits diagnosis by allowing patients to provide a better medical history, to recount more accurately previous illnesses and treatment, and to seek diagnosis and treatment earlier.

Improves compliance. If patients understand what they must do and why, they will believe more strongly in the importance of the regimen prescribed for improving and maintaining their health.

Improves cost-effectiveness. Prevention is obviously less expensive than management of major disease. Further, health education can let patients know which symptoms can be ignored and which should be reported to the physician. Hence, the patient has fewer office visits and less hospitalization. For example, once a diabetic understands the disease, knows appropriate uses of sliding-scale insulin, and learns how to self-inject, there is generally no reason why he or she should need frequent readmission to the hospital. Knowledge about self-care can have similar implications for patients with lung disease, hypertension, myocardial infarction, and many other chronic conditions. Both the patient and the health care system save money.

Administrator is Critical

It is clear that both consumers and health professionals are demanding quality patient education. Equally clear is the position of the hospital administrator as critical in the development and implementation of patient education programs. By providing adequate personnel, resources, and time, as well as opportunities for staff to shape existing skills or acquire new ones, the administrator can provide a receptive and favorable environment for patient education.

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The President's Page

"The Fault, Dear Brutus"

Nursing as a profession came into being because of a crying need for cleanliness, nutrition, personal hygiene, and compassion in the sickroom. At its beginning it was a natural expansion of services happily performed by the distaff side since time immemorial. In order to correct slovenly ways and low esteem once synomymous with the profession, the post-Nightingale nurse was subjected to rigid rules as to how she was to practice her art. I suppose the stiffly starched uniform was an outward manifestation of the constraints imposed on the nurse by her superiors.

Recently there has been dissatisfaction among nurses as to how they are esteemed not only by their superiors but by doctors and patients as well. Job satisfaction is eroding and many are leaving the profession. Some do not see any way to improve their status, training, or compensation. Unfortunately, among other adversaries, the doctor has been accused of keeping the nurse from participating in the decision making process in patient care. Maybe so, but I would like to suggest that nursing rules must be changed first.

The nurse should be asked to spend more time with patients and doctors and less time on routine clerical and administrative duties. It's painful to see how much time is spent on reporting at the conclusion of each shift. It's senseless to see routine duties performed so laboriously because that is what is required by the nursing office. Before the nurse can join the doctor at the bedside and share responsibility she must free herself from rigid routines. At the same time she must be given opportunity for continuing education leading to higher level of competence and compensation. We, as doctors, should not feel embarrassed to seek and accept advice from such super nurses.

Dissatisfaction of the nursing profession vis a vis doctors' attitudes have been expressed lately by nursing educators. In reality, it is the educator who must accept responsibility for how the young nurse sees herself in the discharge of her duties at the hospital. Her training must be task oriented as well as based on learning of theory. The new nurse must realize from the outset that she is entering a 24 hour profession with the demands this makes on her time. Rotation of shifts is a fact of life that must be taught early in order to avoid disillusionment later. It is surprising that some new graduates have neither passed a catheter nor given an enema. As a result, most hospitals must spend considerable time and money on what is called orientation (practical bedside nursing). Like every profession nursing has disadvantages as well as enormous personal satisfaction providing one approaches her art with the proper mental attitude.

Gioacchino S. Parrella, M.D.
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Organizing Committee:
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This symposium is designed to offer a broad overview of the recently recognized epidemic of Kaposi's sarcoma and acquired immunoregulatory disorders in homosexual men. The program affords an unusual opportunity to analyze the interrelationships between the environmental, genetic and immunologic factors in the pathogenesis of this unique neoplasm and its multifaceted clinical and basic science implications.

PROGRAM TOPICS

- Clinical expression and treatment modalities for the epidemic form of Kaposi's sarcoma: similarities and differences from the classical presentation of the disease.
- Details of the acquired immunoregulatory disorder including clinical and **in vitro** characterization of the defects in cell mediated immunity, possible role of circulating immune complexes and HLA alloantigens.
- Epidemiologic investigations aimed at defining the causes of this outbreak in homosexual men; the possible roles of changing lifestyles, use of "recreational" drugs and sexually transmitted diseases.
- The spectrum of opportunistic infections, such as **Pneumocystis carinii** pneumonia, cytomegalovirus, Epstein-Barr virus, cryptococcosis and atypical Mycobacterium: The potential role of viruses as the causative agent of the immunologic disorder.
- A workshop on Saturday morning will focus on the practical clinical management of common diagnostic and therapeutic problems encountered in patients with the acquired immunodeficiency syndrome, such as lymphadenopathy, diarrhea, unexplained fever and pulmonary infiltrates.

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Reflections from the Dean's Office

Ferment in Education

ROBERT U. MASSEY, M.D.

Several months ago, Dean Daniel Tosteson of the Harvard Medical School proposed a new pathway for medical education, and suggested that those who follow it might call themselves the Oliver Wendell Holmes Society. An outline of his plan for the education of physicians appeared in articles in several newspapers including the Hartford *Courant;* a number of laymen and physicians have asked me if the University of Connecticut is considering changes along the lines suggested by Dean Tosteson.

Revolutions in medical education seem to occur mostly in retrospect, although change is more rapid in some decades than in others. Tensions build during the quiet times, and then suddenly must be resolved. There are signs that we are coming into a time when change may be required. *Pharos* for the spring of 1982 has three articles and an editorial on medical education, all of whose authors proposed a fresh look at how and what we are teaching in medical school. David Rogers writes that he is worried about "the fact that medical education does not seem to be much fun anymore for those who are its recipients," and suggests the meat-axe approach: "Cut the hours of teaching for first and second year students by 40 percent by fiat."

This may be the decade for change because the tensions are building: the revolution in biology, great technologic change, declining resources and rising costs, complicated ethical issues, and the aging population. Medical students are bright and strongly motivated; if it is true that they no longer find medical education fun, that is justification enough. Whitehead has written that education begins with romance, and this he likens to a ferment. If the enzyme is deficient, not much reaction will take place!

Medical education is serious business; it is costly, the stakes are high, and while most medical school faculty members would agree on a catalogue of its problems, they would not agree on how to rank them. Since there are so few facts to go on, decisions to change are most often political decisions made by curriculum committees and faculty councils to accommodate new material or to resolve differences of opinion. Neither students nor faculty are ever quite ready to try a real experiment in education; yet without such experiments, or without better observations of nature and more reliable data, change based on scientific principles may not be possible; that does not, however, preclude rational change.

Changes may be urged to support values about which there is little agreement; here the political forces are even more intense. Most of those in the fray have never developed a rational philosophical system to sustain their values; they depend upon the power of rhetoric or position to impose them. These values tend to be for their protagonists the self-evident ones.

The desire for change is unevenly distributed throughout a faculty; some members are deeply and comfortably fixed in the *status quo.* Others chafe under its dominion, but most are indifferent, being quite properly more concerned with their clinical or scientific work than with educational theorizing and curriculum adjusting.

Dean Tosteson's proposal would involve only a few students at first; in this way it would be an imitation of the way most progressive historic change comes about, through the work of a small band of people with a vision. For those who have the vision, it is not necessary to defend it, especially when there is no intention of imposing it on everyone else. If the vision turns out to be workable, and the work bears fruit, others will notice.

It may be impossible, indeed undesirable, to plan and carry out a full scale transformation of medical education in 126 medical schools, but bands of faculty and students testing out some old or new notions may tell us for now what we need to know. If David Rogers is right about medical education no longer being an exciting intellectual experience, then something is wrong and we should try to restore the ferment:

"We are concerned alike with the ferment, with the acquirement of precision, and with the subsequent fruition."[1]

ROBERT U. MASSEY, M.D., Professor and Dean, School of Medicine, University of Connecticut Health Center, Farmington.

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EDITORIALS

FTC and the Professions: Let's Tell Congress Our Views

The issue of the Federal Trade Commission's assumed jurisdiction over the professions may soon be settled by the Congress.

The decision is important not only for us as physicians but also for our patients. At stake for the medical profession is our right to set standards to protect the public from deception and incompetence in the medical profession. At stake for individual states is the right to enact laws pertaining to professionals and professional organizations without threat of having them preempted by a nonelected agency. At stake for patients is their right to have qualified and experienced medical professionals responsible for professional self-regulation that embraces a commitment to serve the public and improve the quality of life in our society.

The physicians of America are not asking for exemption from the antitrust laws. We are asking that claims of improper conduct by professional groups be tried in courts with impartial judges—not an administrative hearings before salaried employees of the agency making the charges.

We are asking that the FTC be required to respect duly enacted state laws. And we are asking that the Congress clarify that it never empowered the FTC to regulate not-for-profit professional organizations.

Before the Congress are legislative proposals that agree with our position. They deserve the support of every physician in this country. And our legislators need to know that we support these proposals and why. The FTC is at the center of congressional attention because its authorization expires at the end of this fiscal year, so action may be expected soon.

The two principal bills in the Senate are S. 1984 and S. 2499. S. 1984 would amend the FTC Act to clarify that there is no FTC jurisdiction over the professions, prohibit FTC preemption of state laws and make major procedural changes in FTC proceedings. S. 2499 would, among other changes, define unfair acts or practices, prohibit FTC preemption of state laws on scope of professional practice of state-licensed professionals, and extend the congressional veto power on trade regulation rule provisions. That bill. with an amendment clarifying that the FTC has no jurisdiction over state-regulated professions, has been voted out of committee and will go before the full Senate.

In the House of Representatives, H.R. 3722, which has 181 cosponsors, would place a moratorium on FTC activities regarding state-regulated professions and professional associations.

The vital question of whether the FTC will be allowed to continue its self-appointed role of regulator of the professions will soon be decided. Write, wire or phone your senators and representatives and give them your views. Those few minutes you spend could help them make correct decisions affecting our professional future for many years.

American Medical Association

Arthroscopic Surgery—High Technology and Basic Principles

Removal of the torn portion of a meniscus in the knee by arthroscope has become a standard procedure in the past five years. (See R.L. Fisher and G.A. Zimmerman, in this issue). Partial vs. complete meniscectomy, a long term controversy in orthopedics, has also been settled in favor of partial meniscectomy by the majority of orthopedists in the same period. Two basic concepts should be kept in mind in relation to these revolutionary changes.

1. Rehabilitation—the patient after arthroscopic removal of the mechanical block feels a magic cure has

occurred. Muscles about the knee and indeed the entire lower extremity, however, are usually weak from disuse. The knee is also not normal no matter how concentric a rim is left. Regaining and maintaining full strength to avoid asynchronous motion and stresses on the joint are as important as the surgery in avoiding further problems. This is especially true with the high percentage of cruciate deficient knees with laxity requiring partial meniscectomy. A prospective study of recurrent meniscus damage and degenerative changes in relation to maintenance of strength and power would be valuable.

2. Rely on principles rather than a method of treatment—do what's needed for an optimal result. Partial meniscectomy by arthroscopy or if necessary by arthrotomy gives the same ultimate result. Dr. William Clancy, director of sports medicine at the University of Wisconsin, and a respected leader in this field, has stated "arthroscopy can not replace a good history and clinical evaluation in diagnosis or an arthrotomy (if needed) to repair knee injuries. For those who require operative arthroscopy, I tell each patient we will try to perform the procedure through the arthroscope; but if we can't do it, we're going to open up the knee joint." All procedures including meniscorrhaphy, a viable alternative in some cases, cannot be performed through the arthroscope at present. Arthrotomy should not be equated with failure.

Norman A. Zlotsky, M.D.

Rockville, CT

Letters to the Editor

Letters to the Editor are welcomed and will be published, if found suitable, as space permits. They must be signed by all authors, typewritten in double spacing (including references), submitted in duplicate, must not exceed 1½ pages in length and will be subject to editing and possible abridgment. To be considered for publication, letters referring to a recent *Journal* article should be received within six weeks of the article's publication date.

CHILD AUTO SAFETY

To the Editor: The 1982 session of the Connecticut General Assembly passed P.A. 82-292, "AN ACT CONCERNING CHILD PASSENGER RESTRAINT SYSTEMS" which will require anyone transporting a child under four years of age in a motor vehicle in Connecticut to insure the child is using an appropriate child automobile restraint. If the child is over one year of age then the use of a seat belt in the rear seat is considered a satisfactory option. The law becomes effective October 1, 1982.

A diverse group of parents, health care, public health and safety professionals, legislators and other concerned citizens was instrumental in passage of this law after several years of effort. To insure the successful implementation of the law, support from an equally diverse but committed group will also be essential.

We all need to be involved but it is particularly fitting that health care and public health professionals play an increasingly significant role to help control the problem. In this country traffic accidents are the leading cause of preventable death and injury for children over one year of age. During 1978 approximately 1500 children under the age of five died and another 100,000 children received disabling injuries due to traffic accidents throughout the country. In Connecticut during 1978 one child under the age of five and another 616 children were injured as occupants in motor vehicle accidents. In 1977 two children, and in 1979 five children, under the age of five died as occupants in motor vehicle accidents in Connecticut. Studies have shown that the use of child restraint devices can decrease the risk of death for a child by 85 percent and the risk of a disabling injury by 66 percent.

In order to determine approximate child auto restraint usage rates prior to implementation of Connecticut's child auto safety law, the Accident and Injury Prevention Program of the Connecticut Department of Health Services last year conducted an observational survey at randomly selected day care centers in Connecticut. Overall only 20 percent of the children were riding with approved child restraints or using seat belts properly. The highest usage rates were observed among the youngest children: 59 percent of children less than one year old were satisfactorily restrained; 38 percent of children between one and two years old were satisfactorily restrained; and 11 percent of the children between three and four years old were satisfactorily restrained. Additionally, 11 percent of the one and two year olds were observed being held in an adult's lap—a behavior which is extremely dangerous for a child in a traffic accident.

Only 7 percent of the drivers in the survey were wearing seat belts. At least 19 percent of the child restraints observed in use were not correctly used.

While it is encouraging that infants in the survey were so frequently restrained, the decreasing use of child restraints and seat belts among older children and the extent of incorrect usage demonstrates the need for proper promotion of this health behavior through public information, education, and legislation.

Child auto safety is increasingly being emphasized as an important preventive medicine issue. Health professionals especially must consider participating in this effort by encouraging parents to use seat belts for themselves, and child auto restraints and seat belts for their children; encouraging and assisting community groups, day care centers and schools to promote the use of child auto restraints and seat belts; asking questions related to traffic safety as part of a complete health history; and encouraging individuals to keep in mind the seating capacity necessary to safely transport their children when purchasing new vehicles.

As Roger J. Meyer, M.D., M.P.H., stated in the February, 1981 issue of the American Journal of Public Health: "Translating facts into action is always a challenge. In the instance of children and the automobile, it is particularly painful because the children represent our future—sitting in the lap of the technologic juggernaut, which represents a sizable part of the nation's economy, and the children are involuntarily placed at risk with little self defense."

Child auto safety laws such as Connecticut's can successfully translate the potential for increased use of child auto restraints into a reality. Approximately three years after Tennessee implemented its law the use of child restrains tripled from 8 percent to 29 percent.

The techniques for preventing unnecessary injuries and deaths are available to us. We are now faced with a challenge to use them effectively.

Daniel J. Savino

Coordinator
Accident and Injury Prevention Program
Preventable Diseases Division
State of Connecticut

Measles Alert

Recently several measles outbreaks occurred from imported cases, in children inadequately immunized.

Recommended age for effective vaccination:

At 15 months of age or older. (Infectious Diseases Committee, American Academy of Pediatrics. Public Health Service Advisory Committee on Immunization Practices).

Revaccination is recommended for:

1. Those given measles vaccine before 12 months of age.
2. Those unsure of their age at vaccination.
3. Those who received inactivated measles vaccine, from 1963-67.

The wording of the Connecticut State Law (P.A. 78-165) states that children immunized *"before their first birthday"* be re-immunized before school entry, unless there is serological evidence of measles immunity.

The cut-off date may appear biologically unjustified. However, the seemingly arbitrary date-line for requiring re-immunizations is the result of a compromise inasmuch as measles immunizations given at ages 14, 13, and 12 months are decreasingly effective compared to those given at age 15 months and older. For this reason, the State Health Department requires that school personnel abide by the letter of the law.

Hans H. Neumann, M.D.
Medical Director,
Department of Health,
New Haven, CT

Check and Stay Ahead of Your Medicare Profile

Physicians typically have a difficult time deciding what they should charge for their various procedures. Most doctors are reluctant simply to ask their colleagues in order to develop common schedules, and that approach runs the specter of illegal price fixing. Furthermore, while it is easy to have someone call other offices to ask about a new patient visit fee or the charge for a delivery, one can hardly pull off that ploy as to less common procedures.

One item of information is readily available, courtesy of the Federal Government. You may request from your region's Medicare carrier a copy of the "prevailing fee data" for your specialty and for your region. The Freedom of Information Act requires delivery of that material upon your request, usually at a nominal charge. It will give you some indication of the fees in your area, so we believe each practice should take advantage of the opportunity *each year.*

The prevailing fee data can be extremely helpful, but first you must know how to use it. You will receive a computer print-out listing the procedure codes for your specialty's various services and the "prevailing fee" for each item. If those figures are not considerably less than your own practice's charges for those procedures, your schedule is probably far behind the times for several reasons.

First, the prevailing fee represents the 75th percentile figure of the charges made by all members of your specialty for a procedure in the calendar year before the last July 1. Notice, then, that a profile figure in June of 1982 represents the "prevailing" fee for calendar year 1980—possibly two years ago. We certainly hope your fee schedule has been adjusted to stay ahead of that out-of-date number.

Secondly, even this older prevailing fee is arbitrarily limited by an "economic index" required by law. That index presently keeps each procedure's prevailing fee to 79% of the prevailing fee in effect in 1973 (which was in turn based upon fees actually charged in 1971).* Since the cost of living and medical practice expenses have certainly risen more than 79% since 1973, we expect our clients' actual fees to be ahead of the limited profile figures.

We advise clients and readers to stay at least 15% to 20% ahead of their profiles. Since the Medicare print-out is readily available, there's no excuse for not obtaining and checking the information. It will often be very useful in helping you determine if any of your fees are clearly behind the times.

Leif C. Beck, LL.B., CPBC
Geoffrey T. Anders, J.D., CPA
Dorothy R. Sweeney
J. Thomas Martin, J.D.

The above authors are the principal consultants for Management Consulting for Professionals, Inc., Bala Cynwyd, Pa.

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*This "economic index" limit should increase from its present 79% figure for the upcoming new fee screen year starting July 1.

NOTICE TO CONTRIBUTORS

Members of the Connecticut State Medical Society reading papers before other organizations are requested to submit their papers to the JOURNAL for consideration by the Board of Editors for publication. Authors preparing manuscripts for submission to *Connecticut Medicine* should consult **INFORMATION FOR AUTHORS.** This material may be obtained from the *Journal* office. Adherence to the instructions will prevent delays both in acceptance and in publication.

Please send them to:
J. Alfred Fabro, M.D., Editor
Connecticut Medicine
160 St. Ronan Street
New Haven, Connecticut 06511

in Brief

A summary of AMA, medical & health news

The House of Delegates endorsed a Board of Trustees plan to develop a National Health Policy that will be designed to function through the foreseeable future and give the health sector the opportunity to abandon the "year-to-year, piecemeal development of policy that responds only to pressures of the moment." The program, in which a variety of other organizations will be asked to join, will be developed in two stages by a steering committee and a series of work groups. In its report to the House at the 1982 Annual Meeting, the Board noted that it had identified "a need for an evaluation of long-term health policies that will provide proper care for our citizens within the available national resources."

A proposal to change the tax treatment of pension plans is "highly discriminatory" against professional service corporations, the AMA told the House Ways and Means Committee. Delegates to the AMA Annual Meeting opposed the legislation (HR 6410) and resolved "to support equity in pension plans, including appropriate increases in maximum contributions to self-employed retirement plans (Keogh plans)." Under present law, a self-employed person can achieve equality with corporate employees by incorporating his business or practice and adopting a corporate pension plan. HR 6410 would apply the Keogh plan limits to corporations which perform services "in the field of health, law, engineering, architecture, accounting, actuarial science, performing arts, athletics, or consulting." Maximum contributions to Keogh plans would be doubled, but would still be less than many professionals can currently contribute under corporate plans.

The Medicare program should not be expanded to include hospice care at this time, the AMA said in letter to three Senate and House subcommittees considering such legislation. Questions of cost, accreditation standards, and personnel qualifications are still unresolved, the Association pointed out. The AMA urged the subcommittees to await the results of a Health Care Financing Administration demonstration program due to be completed in December, as well as other hospice research projects. The letters noted that the AMA's analysis of health care delivery and the role of government financing will include care to the elderly and the terminally ill.

A Resident Physicians Section information kit has been developed to assist medical societies in organizing or strengthening state resident physicians sections. The kit contains a step-by-step description of how to organize a section at the state or local level. For information about the kit, which is available at no charge, contact AMA Dept. of Resident Physician Services, AMA Headquarters.

Laws calling for mandatory penalties when a handgun is used in the commission of a crime were recommended by the AMA in a letter to the Senate Criminal Law Subcommittees. The AMA also urged that the judiciary be given "a clear and unequivocal direction . . . requiring imposition of strict penalties for the use of handguns in the commission of a crime." The letter noted that in 1973 and 1979 the AMA House of Delegates had called for "strict penalties," and that in 1981 the House called for "stricter enforcement of present federal and state gun control legislation and the imposition of mandated penalties by the judiciary for crimes committed with the use of a handgun."

Medical students and students in allied health programs received more than $818,000 in scholarships and loans from state and county medical auxiliaries during the 1980-81 fiscal year. The funds were collected through auxiliary campaigns, auxiliary budget allocations, and direct contributions from physicians and auxiliary members.

The FTC issued its final order in the seven-year dispute with the AMA on the issue of physician advertising. The order followed a 4-4 Supreme Court decision last March, which had the effect of upholding the Federal Trade Commission's action, and the denial of an AMA petition for a rehearing by the court. The AMA will seek changes in several parts of the order, said Executive Vice President James H. Sammons, MD. "The AMA has long abandoned any ethical restrictions on physicians' truthful advertising and contractual relationships with hospitals and health maintenance organizations," he said. "No changes will be required in the AMA Principles of Medical Ethics, the Judicial Council Opinions or AMA's Constitution and Bylaws—as the FTC alleges—when this order becomes final."

FROM THE EXECUTIVE DIRECTOR'S OFFICE

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Richard J. Fiorentino
Coordinator
Special Services

Council Meeting
Wednesday, June 30, 1982

Attendance

Present were: Drs. Parrella, Doctor, Whalen, Zlotsky, Mendillo, Sadowski, Hecklau, Canzonetti, Hess, Friedberg, Van Syckle, Abbot, Petrie, Orphanos, Kaess, Concannon, Eslami, Barrett, Ragusa, Sullivan, Ahrens, Reyelt, Sweet, Czarsty and Fabro.

Also present: Dr. Keefe, President HCMA; Mrs. Sandler, President Auxiliary; Mr. Tomat, FCMA; Mr. Norbeck; Mrs. Lindquist; Mr. Brunell and Mr. Fiorentino.

Absent were: Drs. Rubinow, Villa, Hayes, Beck, McDonnell, Bobruff and Sharon.

Organizational Meeting

The organizational meeting of the Council for 1982-83 was called to order by the President, Gioacchino S. Parrella. Following some opening remarks and the introduction of Council members and CSMS staff, elections of a Chairman and a Vice-Chairman of the Council for 1982-83 were held. Those elected: Chairman—Guy W. Van Syckle, Danbury; Vice-Chairman —Frederick C. Barrett, Norwich.

Report on State and Federal Agencies

Dr. Canzonetti reviewed the restructuring of the Hartford County PSRO necessitated by fiscal constraints. He noted that there was a great deal of interest in the county to meet the challenge of the proposed Durenberger Bill. He indicated that it should be the objective of private practicing physicians to establish a physician nucleus to serve in a leadership capacity in any peer review process, this he noted would be consistent with the AMA position that only physicians conduct peer review programs. Towards that objective, a series of meetings will be established with business, industry and the professions to be ready in case the bill becomes law. The bill could be enacted in early fall.

Dr. Hess referred to the AMA Legislative Roundup, that accompanied the Council Agenda, pointing out that articles on the financing of Medicare, Utilization Review and Prospective Reimbursement should be carefully scrutinized by all physicians.

Dr. Mendillo informed members that PSRO II had received a favorable reconsideration from the Department of Health and Human Services Regional Office in Boston. He noted that PSRO II had been rated fourth in the nation as far as savings and utilization.

Dr. Friedberg reported on the precedings concerning Peer Review at the recent AMA meeting. He particularly singled out the AMA Council on Medical Service Report A—Implementation of Voluntary Medical Peer Review.

Mr. Fiorentino, CSMS Staff, noted that David Beatty, Chairman of the Statewide Health Coordinating Council (SHCC), had called a meeting of all the applicants to the Robert Wood Johnson Foundation for Thursday, July 8, 1982, in Waterbury, to discuss consolidation of the applications into one statewide application. This action came as a result of correspondence from the Foundation requesting such a change. Mr. Fiorentino indicated that Dr. Canzonetti wanted to assure Council members that private practicing physicians would be well represented at this meeting since they would be getting involved on the ground floor of the application. Mr. Fiorentino also reviewed the actions taken by the SHCC at its June meeting including the schedule of the hearings on the two Block Grants on Preventive Health and Health Services, and Maternal and Child Health.

In reference to the Peer Review discussions, Frank Abbot, M.D., apprised the Council of Report A of the AMA Council on Medical Service entitled "Implementation of Voluntary Medical Peer Review" in which the report urged various peer review actions by state medical societies. After discussion, it was VOTED to refer the AMA Council on Medical Service report to the CSMS Committee on Statewide Medical Planning for its consideration and review with the charge that it submit a progress report to the Council in time for its September 2 meeting.

Report of the President

Gioacchino S. Parrella, M.D., reported on his impressions of the AMA Convention and the New England breakfast and luncheon caucuses. He mentioned that he felt New England must increase its degree of sophistication in order to have more visibility within the AMA.

Report on the AMA Convention

Members of the CSMS delegation to the AMA reported on the Annual Convention which was held in

Chicago, June 13-17, 1982. A written report on the actions of the AMA House of Delegates was distributed.

Committee on Public Health

After discussion it was VOTED to approve of the following resolution which had been requested by the Committee on Public Health:

RESOLVED: That the Committee on Public Health authorize the Chairman to obtain information on Block Grants and conduct a review of the Block Grants with the objective of making appropriate recommendations to both the Council and the Committee on Legislation. Further, that the Committee on Public Health be authorized by the Council to arrange meetings with members of the Public Health Committee of the Connecticut General Assembly to discuss the Block Grant proposals or other matters concerning public health.

Liaison Committee with the Department of Income Maintenance

Joseph C. Czarsty, M.D., Chairman of the CSMS Liaison Committee with the Department of Income Maintenance (DIM) and Clair Callan, M.D., representing the Department of Income Maintenance, reported to the Council on the Primary-Care Physician Plan as proposed by DIM. It was explained that the purpose of the plan was to encourage the treatment of patients in physicians' offices instead of the more costly hospital out-patient or clinic setting. They answered questions and pointed out that not all details had been finalized. After discussion, the Council VOTED to endorse the concept of the Primary-Care Physicians Plan as a pilot project to be referred to the Liaison Committee for study and report back to the Council.

Update on Professional Liability Situation

It was reported that CNA planned to implement an increase effective October 1, 1982, averaging 24.8%. Councilors were provided with tables detailing the increase, and the information will be made available to the membership without delay. It was decided not to rate the CMIC at the present time.

Communication from Clair Callan, M.D.

It was VOTED to receive Dr. Callan's letter expressing her appreciation for the Council's support during her two years as President of the Auxiliary and she also expressed thanks for courtesies extended to her at Council meetings.

N.B.: *The foregoing is a summary of the proceedings and actions of the Council on June 30, 1982. Detailed minutes of the meetings are on file at 160 St. Ronan Street, New Haven, for perusal by any interested member of the Society.*

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PHYSICIAN PLACEMENT SERVICE

The Society maintains the Physician Placement Service as a service to the medical profession in Connecticut. Opportunities for physicians to locate in Connecticut will be published as space permits and will be distributed to physicians making inquiries of such opportunities. Information should be sent to 160 St. Ronan St., New Haven, CT 06511 (203-865-6822).

Physicians wishing to establish practice in Connecticut are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.

OPPORTUNITIES FOR PRACTICE

(If no name is listed, contact the Physician Placement Service for more details.)

EMERGENCY MEDICINE

EMERGENCY (SURGICAL) DIRECTOR. Fulltime. To organize and direct the surgical side only of large, busy emergency room in Hartford, CT. Must be capable administrator and teacher but also able and willing to give service to patients when needed. Salary negotiable. Send qualifications and curriculum vitae to: John F. Reed, M.D., Acting Director, Department of Surgery, Hartford Hospital, 80 Seymour Street, Hartford, CT 06115.

WANTED: Emergency Department Director for 255 bed Central Connecticut Hospital, 31,000 Emergency Department visits per year. Stable full time staff with part time M.D.'s to cover vacations, etc. Good attending back up. Complete benefit package. Planning new Emergency Department and Advanced Life Support system. Active Emergency Medical Service region with access to Yale Trauma Center. Excellent opportunity for experienced Emergency Physician to step into a smoothly running Emergency Department. Submit CV in confidence to: CSMS, ER/JS.

FAMILY PRACTICE

Practice opportunity in NE Connecticut town of 8,000 near University of Connecticut. Single present physician retiring within a few years. Hospital assistance in establishing a second practice available. Contact: G. O'Brien, M.D., Windham Community Memorial Hospital, (203) 423-9201.

Beautiful northwestern Connecticut needs the services of two Family Practitioners. Built in referrals and office space available in newly completed medical suite. Attractive financial arrangements offered. Reply to Administrator, Sharon Medical Arts Center, Sharon, Conn. 06069. (203) 364-5161.

INSTITUTIONAL MEDICINE

STAFF PHYSICIAN. Qualifications: Familiarity with community based and institutional health care delivery systems. Demonstrated interpersonal and interdisciplinary skills. Board certification preferred. Candidates considered for part and full time should indicate preference in their cover letter. Reply by resume by September 1, 1982, to: John M. Stober, Director of Human Resources, The Connecticut Hospice, Inc., 61 Burban Drive, Branford, CT 06405. 481-6231.

Full-time Staff Physician wanted for 450 bed, multi-licensed, JCAH approved Geriatric Institution. Must be Board eligible with interest in research. University affiliation welcome. Salary negotiable. Contact: Ulrick K. Rathey, M.D., Medical Director; Masonic Home and Hospital, Wallingford, CT 06492.

INTERNAL MEDICINE

PRIMARY CARE-Internist or FP-for established three man group in upper Fairfield County. Modest guarantee with excellent potential. Looking for enthusiastic individual with concern for life style as well as future. Please contact CSMS, IM/DS.

SURGERY

TRAUMA SURGEON. Large community hospital, Hartford, Connecticut, with university affiliation desires a fulltime trauma surgeon to organize a trauma team of independent surgeons. Must be Board Certified or Board Qualified in general surgery with added education (Fellowship) in trauma. Salary negotiable. Send qualifications and curriculum vitae to: John F. Reed, M.D., Acting Director, Department of Surgery, Hartford Hospital, 80 Seymour Street, Hartford, CT 06115.

GROUP PRACTICE

INTERNIST. Board eligible. Needed immediately to join group of ten Internists at CHCP, a federally qualified prepaid staff model HMO. Also needed is a FAMILY PRACTITIONER to provide care at suburban satellite center in Wallingford, CT. Board eligible. Flexible starting date. CHCP is ten (10) years old and has 30,000 members, with expansion plans underway. Attractive setting, convenient to I-95 and I-91. Affiliated with Yale-New Haven Medical Center. Excellent pay and benefit package. Submit CV and salary requirement to: CHIEF OF MEDICINE, 150 Sargent Drive, New Haven, CT 06511. An Equal Opportunity Employer.

PHYSICIANS WISHING TO LOCATE IN CONNECTICUT

FAMILY PRACTICE

Upon notice. Age: 29. Presently in practice. Nat'l bds. AB cert. MD, Boston University; Int., New York University; Res., Main Medical Center. Prefers group or assoc. type practice. Write: Jeffrey P. Tannenbaum, M.D., 3 Brookhill Dr., Schenectady, NY 12309.

June '82. Presently in practice. Age: 33. Nat'l bds. Canadian Board Certified. AB elig. MD, McGill Univ.; Int., Royal Columbian Hospital. Presently on staff at McGill University affiliated hospital; Medical Director of Griffith-McConnel Residence & Infirmary for senior citizens; Director of Geriatric Service at Queen Elizabeth Hospital. Prefers solo, group or assoc. type practice in a large community. Write: Michael A. Kazakoff, M.D., 5652 Sherbrooke St. W. #1, Montreal, Quebec, Canada H4A 1W7.

Sept. '82. Age: 56. MD, Univ. of Nebraska; Int. and Res., Santa Barbara Cottage Hospital; Interested in free standing clinic with emergency work. Desires solo, group or assoc. type practice in a small community. Write: Robert W. Delaplane, M.D., P.O. Box 183, Stafford Springs, CT 06076.

Oct. '82. Age: 55. Licensed in Connecticut. AB elig. MD, NY Medical College; Int., Germantown Hospital, Philadelphia, PA; Res., Presbyterian Univ. Medical Center, Einstein Medical Center, Philadelphia, PA. Desires solo practice. Also, will consider Pulmonary Medicine and Anesthesiology. Write: CSMS, FP/JAP.

July '83. Age: 26. Nat'l bds. AB elig. MD, Medical College of Ohio; Int. and Res., UCLA Hospital & Cedars-Sinai Hospital. Group practice in medium size community preferred. Write: Paul W. Brammer, M.D., 2040 West J-13 #33, Lancaster, CA 93534.

INSTITUTIONAL & INDUSTRIAL

Month's notice. Age: 70. Licensed in Connecticut. Presently in practice at a Primary Health Care Facility. AB elig. MD, Downstate Medical Center, NY; Int., Long Island College Hospital; Res., Sea View Hospital, NYC (Pulmonary) and Goldwater Memorial Hospital, NYC (Research). No preference in community size. Write: CSMS, INST./NT.

INTERNAL MEDICINE

Nov. '82. Age: 28. Nat'l bds. FLEX. AB elig. MD, Baylor College of Medicine; Int. and Res., Wadsworth VA, Los Angeles, CA. Desires group or institutional type practice in medium to large size community. Write: David C. Yauch, M.D., 1545 Hudson Rd., St. Paul, MN 55106.

Nov. '82. Age: 30. Nat'l bds. AB elig. MD, Tulane Univ.; Int. and Res., VA Wadsworth Hospital, UCLA. Desires group type practice in medium to large size community. Write: Elaine M. Francis, M.D., 1545 Hudson Road, St. Paul, MN 55106.

PULMONARY. July '83. Age: 29. Nat'l bds. AB cert. MD, Mt. Sinai School of Medicine; Int. and Res., North Shore University Hospital; Fellowship, Albert Einstein College of Medicine, Fellow in Pulmonary Medicine. Desires Group or Assoc. practice in medium to large size community that is in need of a trained Pulmonologist. Write: Lloyd G. Goldfarb, M.D., 43-35 195th St., Flushing, NY 11358.

July '83. Age: 35, Nat'l bds. AB elig. MD, New Jersey Medical School, Newark; Int. and Res., UCLA-San Fernando Valley Program, Sepulveda, CA. Prefers medium to large size community. Looking for an established group (either subspecialty or primary care) needing a General Internist. Write: Anthony D. Ciardella, M.D., 550 Fermoore St., San Fernando, CA 91340.

CARDIOLOGY. July '83. Age: 27. Licensed in Connecticut. Nat'l bds. AB cert. MD, GSVM Medical College, India; Int., RI-RIII MED, McMaster University, Canada; Res., Greenwich Hospital (Yale Univ.); Fellowship, Medical College of Wisconsin, Milwaukee. No preference to type or size of practice. Write: Sanjay Singh, M.D., 2092 S. 102 St., #214, West Allis, Wisconsin 53227.

NEUROLOGY

July '83. Age: 30. Licensed in Connecticut. Presently in practice. Nat'l bds; AB cert. MD, Albert Einstein College of Medicine, Bronx, NY; Int. and Res., Naval Hospital, Bethesda, MD. Prefers solo, group or assoc. type practice. Wishes to return to home town. Is experienced in EMG and EEG. Write: Andrew J. Dutka, M.D., Box 47 Co's Mailroom, Naval Regional Medical Center, San Diego, CA 92134.

OB/GYN

July '83. Age: 32. FLEX. AB elig. MD, University of Guadalajara, Mexico; Int., 5th Pathway College of Medicine & Dentistry; Res., State University of NY, Syracuse, NY. Prefers group practice. Write: Gary C. DeGrande, M.D., 201 Seeley Rd., H-3, Syracuse, NY 13224.

OCCUPATIONAL MEDICINE

Immediately. Age: 53. Licensed in Connecticut. FLEX. AB elig. MB. B.Ch., University of Witwatersrand Medical School, Johannesburg, South Africa. Prefers Institutional/Industrial type of practice. Accredited Specialist in Occupational Medicine by Joint Committee on Higher Medical Training, Royal College of Physicians, London, England, 1978. Contact: CSMS, INST/HCL. (to be forwarded)

OPHTHALMOLOGY

Jan. '83. Age: 31. AB cert. MD, Int. and Res., University of Manitoba, Canada; Prefers solo, group or assoc. type practice. Would prefer to limit practice to Adult General Ophthalmology with Glaucoma subspecialty. Write: CSMS, OPHTH/DNM.

ORTHOPEDIC SURGERY

Late '82. Age: 36. Presently in practice. Nat'l bds. AB cert. MD, Georgetown University; Int. and Res., Lenox Hill Hospital, NY and Georgetown University Hospital. No preference to type or size practice. Write: Christopher J. Cassels, M.D., 1390 Calle Pecos, Thousand Oaks, CA 91360.

PART-TIME

Public Health STD Clinic Physician urgently needed to provide medical services for New Britain Sexually Transmitted Diseases Clinic. Physician works with a team of Public Health Nurses, STD Clinician, Laboratory and Administrative Staff; Provides direct patient care through examinations, diagnosis, and treatment. May provide medical consultation and advice to professional staff. CLINIC IS UNABLE TO FUNCTION BECAUSE OF THIS VACANCY.

Present Clinic hours: Tuesdays 11 A.M. to 1 P.M.; Thursdays 6 P.M. to 8 P.M. Compensation: $25/hr. Hours may be able to be adjusted to meet physician's availability. Medical coverage needed immediately and at least through September, 1982. A general knowledge and interest in infectious diseases is desirable. Please contact: Dennis R. Hamilton, Director of Health, City of New Britain: 224-2491, Ext. 261, or James M. Wilson, M.D., Medical Consultant and Health Commissioner, 223-2491.

SURGERY

THORACIC. Availability negotiable. Age: 47. Nat'l bds. AB cert. MD, Cornell; Int., St. Lukes, NY; Res., St. Lukes, Lakeside, Cleveland, OH, Upstate Medical Center, Syracuse, NY and Ohio State University Hospital, Columbus, OH; Fellowship, Mass. General, Boston, MA. Would like to practice General Thoracic Surgery either solo or in association with another Thoracic surgeon. Write: CSMS, AT/SUR.

3 months notice. Age: 38. Presently in practice. AB cert. MD, University of California—San Francisco; Int. and Res., University of Iowa Hospitals. Desires to remain individually incorporated. Prefers solo, group or assoc. type practice in a medium size community. Write: James W. Wienke, M.D., 305 Aliiolani St., Pukalani, Hawaii 96788.

VASCULAR SURGERY & GI ENDOSCOPY. Aug. '82. Presently in practice. Age: 31. Nat'l bds. AB cert. MD, Loyola University, IL; Int., St. Francis, Evanston, IL; Res., Loyola University, IL. Prefers assoc., solo, or group type practice in a medium size community. Write: Douglas A. Schipitsch, M.D., Box 262, Cumberland, WI 54829.

COLON & RECTAL. July '82. Age: 36. AB elig. MD, University of Milan, Italy; Int., Dis Hospital Meudritis, Switzerland; Res., Maimonides Medical Center, Brooklyn, NY; Fellowship, Greater Baltimore Medical Center. Prefers solo, group, assoc. or institutional type practice in a large community. Write: Marian Fleischer, M.D., 6603 Bonnie Ridge Drive, Baltimore, MD 21209.

July '82. Age: 42. Licensed in Connecticut. MD, Rangaraya Medical College, Kakinada, Andhra Pradesh; Int., Govt. General Hospital, Kakinada; Res., Memorial University of Newfoundland. At present is completing another year of residency in General Surgery to complete the requirements of by the American Board of Surgery. Prefers solo, group and/or institutional type practice in a medium size community. Write: Sambasiva Rao Allada, M.D., Apt. 212, Amherst Manor Apts., Williamsville, NY 14221.

UROLOGY

July '82. Age: 35. FLEX. AB elig. MD, Techmon Haifa, Israel; Int., Beth Israel Medical Center, NY; Res., NYU Medical Center. Interested in solo, partnership, group practice or multi-specialty group practice in a medium to large size community. Write: Jacob Heyman, M.D., 271 Ave. C. Apt. 5F, New York, NY 10009.

July '82. Age: 32. Presently in practice. FLEX. AB cert. MD, Aleppo University, Aleppo, Syria; Int., St. Vincent Health Center, Erie, PA; Res., Easton Hospital, Easton, PA; Fellowship, St. Vincent-Hamot, Erie, PA. Wishes to practice in a medium size community. Prefers Multispecialty group (fee-for-service) but would consider solo type practice. Write: Samir Bsata, M.D., 4917 Sir Hue Dr., Erie, PA 16506.

Occupational Health: An Academic Perspective

STEVEN R. COHEN, M.D., M.P.H.

Occupational health took form as a burgeoning academic discipline in 1700 with the publication of a treatise on work-related illnesses entitled 'De Morbis Artificum Diatriba.' The author of this seminal text, Bernardo Ramazzini, was not the first to characterize the diseases of workers but no one before had attempted to integrate the infrequent and disparate references to occupational medicine extending back to antiquity. Even more remarkable than his wide-ranging descriptions of working conditions, Ramazzini perceived the critical need to educate others. He exhorted his medical colleagues to consider the role of the occupational environment in the expression of human disease using language which still has a contemporary appeal:

> ''When a doctor visits a working class home, he should be content to sit on a three-legged stool if there isn't a gilded chair, and he should take time for his examinations; and to the questions recommended by Hippocrates, he should add one more . . . What is your occupation?''[1]

Today, every medical student is counseled to inquire about occupational status when obtaining a formal medical history. Beyond this, however, there is little didactic teaching devoted to occupational health in the medical school curriculums at most institutions. Prior to 1977, there were only three occupational-medicine residency training programs in the entire United States.[2] In all of North America there are little more than 800 practitioners certified in occupational medicine by the American Board of Preventive Medicine.* Recent efforts to expand university-based training resources during the 1980's have been placed in jeopardy by the declining availability of Federal funds. The reduced emphasis on occupational health under the aegis of the current administration in Washington contrasts sharply with an enormous shortage of occupational physicians in this country. This shortage is estimated to be 250 percent below current needs as projected by the Graduate Medical Education National Advisory Committee (GMENAC).[3] Ironically, the GMENAC has also predicted a general surplus of physicians by 1990.

Occupational health is an eclectic field and specialty training in this area has an essential requirement for the collegial diversity of a medical school. A physician, nurse or other health professional who encounters occupational illness will often be required to interact with the industrial hygiene specialist, toxicologist, epidemiologist, environmentalist, plant management and organized labor. Represented diagramatically in the figure (Figure 1), an academic milieu provides the most comprehensive framework for service, education and research functions unique to this field.

At Yale, the service component takes the form of hospital clinics for general occupational medicine, as well as occupational lung and skin disease clinics.[4,5] The clinics serve not only to evaluate potentially work-related illnesses but also to explore for epidemic disorders that might otherwise go unrecognized. There is also an important outreach function to study occupational health hazards at the work site. Clinicians in the hospital may play an educational role directly, by responding to specific consultation projects or by hosting grand rounds programs for occupational health care practitioners in the community. From another, more indirect perspective, epidemiology, biostatistics, environmental health and other related areas may interface closely with clinical activities in occupational health. Faculty and students working together in these specialized areas can provide assistance in the conduct of clinical investigations. Basic research projects may evolve from any of these settings and utilize the vast scientific resources of the University.

The overwhelming manpower needs in most areas of occupational health, particularly for physicians, are underscored by current government estimates suggesting upwards of 500,000 new cases of work-related illness annually, with 100,000 deaths. Unfortunately, though a physician may ask ''what is your occupation?,'' few would appreciate health and safety hazards of the ''molder'' in foundry work, the ''burr bench operator'' in plastics manufacture, the ''gizzard plucker'' in a poultry processing plant, the ''set-up man'' in a machine shop and so forth. Fewer still are the physicians who are trained or willing to enter the work place and address the issues of rehabilitation, prevention, insurance regulations and vagaries of the law.

Any individual disabled in the workplace is a loss to society in terms of human suffering, the waste of large amounts of resources in dollars and in lost productivity.

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* Personal Communication, January, 1982

STEVEN R. COHEN, M.D., M.P.H., Assistant Professor of Dermatology and Epidemiology, Yale University School of Medicine.

Reprint requests to: Section of Occupational Dermatology, Department of Dermatology, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510 (Dr. Cohen).

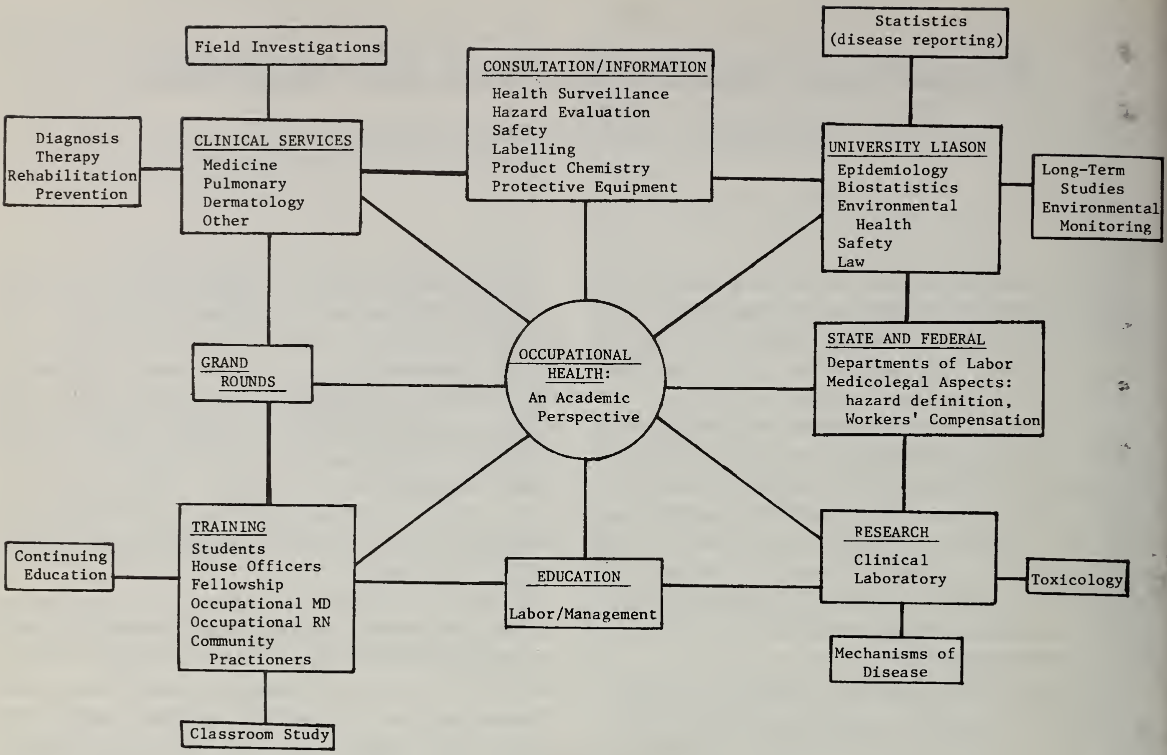
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Figure 1

The medical profession has the responsibility to help make the occupational environment safe and healthy; stated another way, worker health and safety should be accorded the highest priority, recognizing that a renewed emphasis on the training of occupational health professionals is essential to carry forth this goal.

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Industry's Role in Health Care

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In 1980, the cost of health care in this country reached $245 billion; some experts believe that U.S. citizens soon will be working one day out of five just to pay for health care. Industry's voice is crucial; its share of the national total is currently estimated at 24% for health insurance premiums alone ($60 billion) and 40% overall. Recognizing that any attempt to summarize a highly complex and inconclusive state of affairs risks oversimplification, this paper will attempt to comment on what U.S. industry can do and is doing to control health care costs and improve effectiveness.

Industry As Payer

Corporations pay an experience-rated premium for their employee health benefit plan consisting of three elements: administrative charges, fees for services, and units of use. *Administrative costs* can be reduced by claims audit and review, strict administration of "reasonable and customary" fees, and coordination of benefits. Many large firms have gone to self-insurance arrangements, with partial or complete self-funding and even self-administration. (Deere and Co. feels that self-administration has resulted in lower administrative costs, better employee understanding, and good acceptance by the union). *Fees for services:* Possible targets include using alternative methods of reimbursing providers, such

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as prospective reimbursement of hospitals, developing physician fee schedules, and negotiating with hospitals or other vendors for discounts when services or materials are being purchased in volume. *Units of use:* Utilization control strategy has led to redesign of health benefit plans to provide for less costly alternatives and to promote better utilization of health services without a reduction in the level of quality. Many corporate plans now provide full coverage for ambulatory surgery, health care at home or in an extended care facility, pre-admission testing, and second surgical opinions for certain elective procedures. These benefits will be under-utilized unless details are communicated effectively and repeatedly to employees and their dependents.

Industry As Consumer

Hospital utilization review, primarily by Professional Standards Review Organizations (PSROs) and Foundations for Medical Care (FMCs), may achieve cost-savings by bringing about altered utilization patterns. Most reviews are concurrent, though there are also many local success stories with prospective and retrospective review. Since 1971, Motorola and other Phoenix-Scottsdale employers have joined with the Maricopa (County) FMC in a Certified Hospital Admissions Program. The Foundation verifies insurance status of any proposed hospital admission, gives pre-admission certification (including length of stay) or "lack of medical necessity" exclusion, and decides whether surgery will be inpatient or ambulatory. Cooperation by county medical society, hospitals and employees has been wholehearted, and Motorola reports a 15% decline in 1979 hospital costs for their 41,000 employees. Annual patient hospital days per thousand insured is in the low 400s, and average length of stay for the covered population is 1.5 days less than that of the non-covered population.[1]

Peer review by PSROs has not been proven to be cost-effective, but quality control could be an important contribution. Providing physicians with data indicating how their utilization patterns compare with others' may tend to bring inappropriate utilizers into line.[2]

Alternative delivery systems are being embraced by industry for their built-in incentives for efficiency. Health Maintenance Organizations (HMOs), the best known, are of two types: the Individual Practice Associations (IPAs) and Pre-paid Group Practices (PGPs). The IPA model often preserves existing physician-patient relationships and fee-for-service payments; it is acceptable to most physicians and hospitals, and has low start-up costs. Employers Insurance of Wausau, in cooperation with the county medical society and local hospitals, started the North Central Health Protection Plan (IPA) in Marathon County, Wisconsin in 1972. Limiting 1972 enrollment to its own employees allowed the company to analyze the impact of the IPA plan, providing a rare opportunity to study "before" and "after" hospital utilization data on the same population. It found a 40% drop in hospital utilization (932 to 552 hospital days per 1,000 insured), primarily due to a decrease in average length of hospital stay of 39% (from 7.4 to 4.5 days).[3] Those IPAs which achieve a striking decrease in hospitalization (a key target, since hospitalization accounts for about 40% of health care costs) are apt to have effective peer review, high quality management and some sharing of financial risk by participating physicians.[3]

Since 1972, the existing two HMOs in Minneapolis/St. Paul have grown to seven. With supportive employers offering multiple choices and with 80% of the physicians and nearly all the hospitals participating, HMOs have captured impressive percentages of Twin Cities employees—65% at General Mills, 65% at Cargill, 53% at Prudential Insurance, 44% at Honeywell, and 36% at Control Data. And competition among HMOs keeps rates competitive.[4]

Joint efforts: Business groups on health (Midwest, Fairfield/Westchester et al.) comprise coalitions of regional employers who are sharing information in such areas as utilization review, education programs for corporate board members of hospitals and local planning groups, format of utilization/cost data requested from insurance carriers, reimbursement policies, and many others. The development of local coalitions represents an important trend, and the Washington Business Group on Health has implicity taken the role of coordinator of information flow among them. Additionally, the American Medical Association's corporate liaison program has piloted some 20 medicine-business coalitions at the local level since December, 1979 to deal with identifiable community health care issues.

Consumer education: Programs and courses for employees in wiser buying of health care services go hand-in-hand with instruction in medical self-care; both encourage personal responsibility. Many employers subscribe to authoritative medical newsletters for employees, and some distribute copies of self-care books. Coupling a wiser-buying course with the more popular topic of medical self-care seems to increase employee participation.

Cost-sharing by employees should be at a level that is not a barrier to needed care but that provides an incentive to responsible consumption of the health benefits. Cost-sharing need not be limited to copayments or deductibles; it may be in the form of innovative incentives to engender rational use. Mendocino (Cal.) County's Office of Education pays an employed teacher in cash for the amount by which $500 exceeds his annual medical expenses. The Health Research Institute is piloting an experimental Health Promotion Organization (HPO) for 20 San Francisco employers wherein an employee and his family is rewarded for "wellness" by a full payback minus the premium for catastrophic protection. Since 1977, Mobil Oil has returned to its employees in each of nine geographical areas a bonus consisting of the difference (if any) between the maximal company contribution and the actual cost of the medical plan coverage in that area.

In 1978, American Can Co., initiated for its 8,800 salaried employees a flexible benefit program in each of five categories: medical benefits, life insurance, vacation, disability income and capital accumulation. Each employee can use his/her "flexible credits" (averaging 5% of salary) to purchase additional benefits beyond the company-paid core benefits in each category. Medical options include four different insurance plans, differing in amount of deductible and coinsurance; a preventive health option; a vision and hearing option; a dental plan; and an HMO option at locations where HMOs are available (currently 26 HMOs are offered at 31 locations).

Industry As Provider

Industry functions as a provider of health service through corporate medical departments and through programs for protection and promotion of health, education and counseling. Despite scientific uncertainties and technological change, the corporation must identify physical, chemical and biological exposures at the worksite and identify workers exposed; inform employees and retirees and their families of possible harmful exposures; and avoid significant exposures in the future.

Health promotion programs focus on improving life styles and are of two general types: one uses risk assessment and targets intervention at high-risk groups; the other offers voluntary education and behavioral modification to all employees. An increasing number of foundations and firms currently sell health promotion programs and health hazard appraisals.

The work setting is uniquely suitable for disease prevention programs. It provides direct access and continuing availability to some 90 million people, many of whom see their physicians only for treatment of episodic illness. The workplace also makes possible the development of social support systems through cooperating labor unions, ethnic societies, and social and recreational organizations; recent studies suggest that social linkages may decrease mortality, independently of known major risk factors.[6] Drawbacks to the workplace can be identified and addressed: worker concerns about confidentiality of their medical records and suspicions about employer motivation.

Industry has demonstrated interest and readiness to contribute to the "revolution in personal responsibility" by offering health hazard appraisals, exercise facilities, nutrition counseling, stress management techniques, hypertension detection and follow-up, smoking cessation courses and alcohol assistance programs. Only the latter three have well-documented cost-benefit ratios. A good blood pressure intervention and follow-up program may double the number of hypertensives who are well-controlled; acceptance is high and company credibility and concern are perceived positively. Organized smoking cessation programs for well-motivated participants claim initial abstinence rates of 75% and long-term quit rates of up to 50%. Successful alcohol assistance programs achieve 65-80% salvage rates with low recidivism, irrespective of whether entry to the program is voluntary or mandatory (for deteriorating job performance).[7]

There seems little doubt that the modification of adverse health habits and lifestyles will have greater effects on health outcomes than all other services combined. Yet social learning theory offers no consensus strategy for behavior change nor for the role of incentives. Speaking of the Stanford Three Community Media Campaign, Farquhar found mass media more cost-effective than face-to-face education methods, and felt that alteration of lifestyles was achievable at reasonable cost.[8] The private sector is keenly interested.

R. J. Reynolds Industries decided to become a provider in 1976 when it learned that 50% of its Winston-Salem employees lacked a personal physician. It elected to start its own closed-panel HMO, designed to accommodate the full spectrum of employee health needs in an omnibus, prepaid health care program. It has met those needs admirably.[9]

The Gillette Co. has greatly expanded the number of primary care services available to its employees and dependents via a cadre of part-time company physicians, emphasizing preventive care and early detection, while fostering less absenteeism and more rehabilitation efforts. Visits for non-occupational ailments outnumber occupational visits five or six to one, and Gillette projects a savings of almost $3 for every $1 spent on its medical department budget.[10]

New York Telephone Co. has blurred even further the traditional boundary between occupational and non-occupational medicine in developing a philosophy of total care labelled Health Care Management (HCM). At Level I, the usual entry level for employees who choose voluntarily to participate in HCM, the treatment of an episode of illness or injury is initiated by an in-house physician. As a committed advocate, the company physician then refers the employee either to his own physician or to a selected community physician, offering full cooperation and supporting services at the worksite. Level II develops a lifetime health strategy for the employee and provides whatever education, monitoring and supervision seem indicated. Level III examines the health status of the full working population, evaluating overall health progress and indicators (costs, productivity, disability, absenteeism). It is not a program that will be acceptable to all industry or community physicians, but it seems to be an innovative, comprehensive effort which agressively attempts to foster employee responsibility.[11]

Industry as Producer

Productivity is markedly influenced by attitudes. Psychological health correlates with physical health;[12] life-change experiences correlate with near-term symptomatology, accident and illness.[13] "Medically-related absenteeism" has motivational determinants: satisfaction with security, task autonomy, reputation of organization, ideal work hours, overtime hours and feedback from supervisor loom large.[14] As the importance of human capital comes increasingly to be appreciated, mechanisms may be found to quantify it, and planners may be able to integrate human resources into strategic and long range planning.

Conclusion

In any dialogue about the quality and cost of medical care, the practicing physician is key because his decisions generate 70 to 80 percent of health care costs.[15] Industry recognizes that no effort to contain these costs will succeed without the participation and active support of practicing fee-for-service physicians.[16] Corporations and carriers are just beginning to agree on exactly what data are needed and how they can be best used. Industry is beginning to obtain from medical advisers models for diagnosis and treatment performance standards. The savings from decreasing the use of unnecesary laboratory tests[17] and/or from shortening hospitalizations by even one day are extraordinary, and will require a change in the practice patterns of some physicians. It is too early to know whether a marriage between industry and medicine can succeed, but the vows are being exchanged.

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Determining the Work Relatedness of Disease

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ABSTRACT—This paper discusses the types and purpose of making diagnoses and the use of industrial hygiene, toxicologic and epidemiologic information to make causal diagnoses. It presents a method of relating diseases considered to be nonoccupational in nature to the work environment.

Ill persons are categorized into groups (disease entities) by two distinct types of criteria, manifestational or causal.[1] In classifying diseases manifestationally, ill persons are grouped according to similarities with respect to symptoms, signs, changes in body fluids or tissues, physiologic function, behavior or prognosis. Examples are fracture of the tibia, cervical cancer and diabetes mellitus. Using causal criteria the grouping depends on the similarity of the individuals with respect to a specified experience. Examples of diseases defined this way are birth

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trauma, silicosis, lead poisoning and syphilis.

Physicians are increasingly being asked to give their opinion on the work relatedness or cause of diseases defined by manifestational criteria where the cause is not implied and has not been sought for. Government agencies such as the Occupational Safety and Health Administration, companies, the courts, workers compensation boards ask this question in hopes of either preventing occupational diseases from occurring or to detemine the legitimacy of claims for work related illness. The accuracy of these determinations can have a great social and economic impact on the patient, his or her coworkers, and the institution he or she works for. The intent of this paper is to present a method whereby a physician can incriminate or rule out the workplace as the cause of illness defined by its manifestations.

The logical first step in the process is to validate the manifestational diagnosis if the diagnosis was not made by the physician reviewing the claim. This is important when associations between exposure and disease are to be made in a group of workers. The diagnostic criteria for all persons in the group must be the same if the disease is to be linked to a common exposure. Next the work environment must be evaluated to ascertain the probability of exposure. The work history of the diseased individual should be investigated to determine if at any time during his/her employment exposure to an agent capable of producing the pathophysiologic alteration occurred. Once it has been established that the individual was exposed to an agent likely to cause the disease in question, the intensity and duration of the exposure must be documented by:

A. A search of the person's employment or plant medical records for information to qualify past exposures to respirable toxicants (atmospheric sampling data). If these records are unavailable, the current atmospheric concentrations of the suspected agent must be obtained to estimate the magnitude of past exposures.

B. Biologic monitoring data such as blood lead or cadmium levels quantifying the body burden of the putatively causal agent.

If the individual was not exposed to physical or chemical agents that could produce the condition, the disease or illness is probably not related to his/her working environment. If such an agent was present, but the intensity and duration of exposure (demonstrated by atmospheric and/or biologic sampling data) was insufficient to produce the disease in question, then the disease most likely is not related to a known disease producing environmental agent. If significantly elevated levels of an agent capable of causing the pathologic or physiologic abnormality were demonstrated in the environment and/or body fluids a specific causal diagnosis can be made with a great degree of certainty.

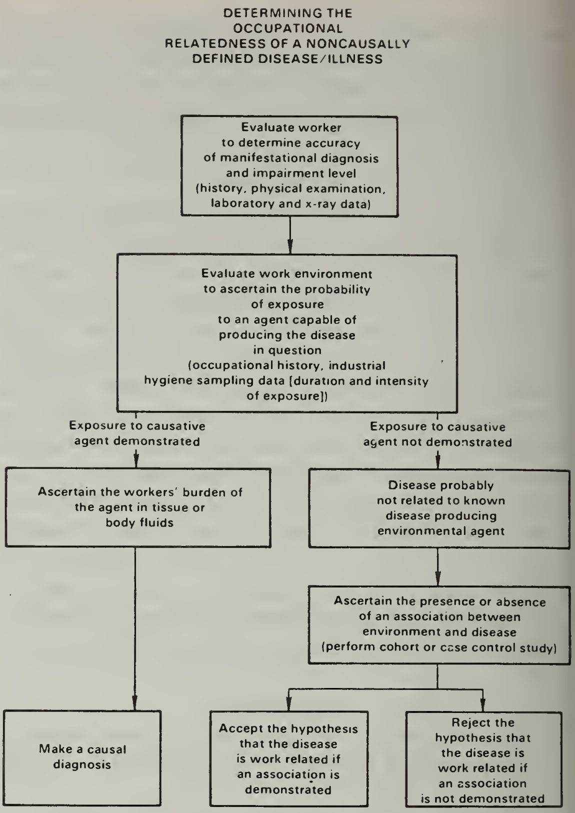
DETERMINING THE OCCUPATIONAL RELATEDNESS OF A NONCAUSALLY DEFINED DISEASE/ILLNESS
Evaluate worker to determine accuracy of manifestational diagnosis and impairment level (history, physical examination, laboratory and x-ray data)
Evaluate work environment to ascertain the probability of exposure to an agent capable of producing the disease in question (occupational history, industrial hygiene sampling data [duration and intensity of exposure])
Exposure to causative agent demonstrated
Exposure to causative agent not demonstrated
Ascertain the workers' burden of the agent in tissue or body fluids
Disease probably not related to known disease producing environmental agent
Ascertain the presence or absence of an association between environment and disease (perform cohort or case control study)
Make a causal diagnosis
Accept the hypothesis that the disease is work related if an association is demonstrated
Reject the hypothesis that the disease is work related if an association is not demonstrated

Figure 1

If either a toxic agent could not be found or exposures were extremely low, but a suspicion exists that the illness was related to work, a formal epidemiologic study must be performed. The purpose of this investigation should be to demonstrate an increased incidence or prevalence of the illness in similarly exposed workers compared to its incidence or prevalence in a group of nonexposed workers. If such an association is demonstrated, its causal nature may be ascertained by evidence indicating that the chemical or physical agents used in the workplace were biologically active, that exposure predated disease and, the incidence or prevalence of the disease increased as exposure increased. Where a dose response relationship can be established between factors in the work environment and the disease and the relationship can be explained biologically, the disease should be considered work related. However, if an agent capable of producing the disease in question cannot be found in the work environment, is present, but in amounts not considered to be toxic and the incidence of the disease in a sufficiently large enough sample of exposed versus nonexposed workers does not differ significantly, it is highly unlikely that the condition arose out of employment.

What has been presented above is summarized in the figure. The process is time consuming and dependent on information supplied by nonmedical sources. However it is necessary to undertake if a scientifically valid relationship between disease states and the occupational environment are to be made. If procedures like or similar to that presented are not followed statements relating illness to the work environment must be regarded as speculative.

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The Pre-placement Examination

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ABSTRACT—A pre-placement examination is performed on an individual who is considered qualified for employment. The examination is intended to assess the applicant's physical capacities and ability to safely perform activities essential to effective job performance. Because occupations vary widely in work demand and hazard potential, the content of the examination must be structured to evaluate the applicant's health or physical capacities relative to the specific health or work strength requirements of the prospective job.

Employment decisions are made by management, following review of the applicant's qualifications and the physician's report of the pre-placement examination findings. The pre-placement examination is valuable in:

1. **establishing baseline medical data for occupational health surveillance;**
2. **evaluating workers for assignment to strenuous activities; and**
3. **avoiding employee placement in tasks unsuited to physical capacities.**

For many years, pre-employment medical examinations were given to identify applicants who met or exceeded the physical qualifications for a position. The final selection for employment was often made on the basis of which person, of all the applicants having the requisite technical skills and physical capacities, was considered to have either the best physical capabilities or the fewest potentials for illness or disability.[1]

Over the past decade, the pre-employment examination has been supplanted in occupational medicine by the concept of a pre-placement examination. The pre-placement examination is conducted after a decision is reached that the applicant satisfies the technical requirements of the position. The pre-placement examination is then conducted to determine if the individual's physical capacities meet the strength or physical activity requirements of the job. The examination is also intended to detect health conditions which may limit the individual's ability to perform work safely.[2,3]

In the view of the Council on Occupational Health of the American Medical Association, the pre-placement examination is performed ''for the express purpose of determining and recording the physical condition of the prospective worker and assignment to a suitable job in which his disabilities, if any, will not affect his personal efficiency, safety, and health, nor the safety of others.[4] Thus, the primary purpose of the pre-placement examination combines two objectives: 1) To establish that an individual is medically capable of performing the duties of the job safely and effectively; and 2) To assure the proper placement of persons in jobs appropriate to their physical and emotional health.

A second purpose for the pre-placement evaluation is to obtain information about the applicant's past medical and employment history, with an emphasis on identifying existing occupational illnesses which relate to previous workplace exposures. This allows development of a detailed profile of the individual's health at the start of employment. In addition, baseline (or ''pre-exposure'') values for laboratory and clinical studies can be obtained

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for use in workplace medical surveillance and biological montoring programs. For some jobs, these programs are required because the duties involve potential exposure to specific substances covered by federal regulations or may be required by company health policy.[5,6,7]

Development of detailed pre-placement information may also be extremely valuable in assessing future health conditions in an employee which may relate to occupational exposure. When available over time for a sizable group of individuals, these data will be helpful in conducting epidemiologic studies on the prevalence and incidence of illnesses and to investigate trends in health conditions among groups of employees.[8,9]

A third purpose of the pre-placement examination involves its role in health education — helping individuals to understand that much of their health maintenance is guided by voluntary actions.[10] Because pre-placement examinations may be the only health review that many applicants have had for several years, the promotion of health awareness during this examination will motivate some individuals to alter personal habits or begin actions to maintain their health. While the time involved in a pre-placement examination is limited, the health personnel conducting the examination should use this opportunity to introduce — or reinforce — voluntary behavior changes which will promote the individual's well-being. Clearly, the health of most people would benefit from weight control, smoking cessation, moderation of alcohol use, control of substance abuse, adequate exercise, education about nutrition, and compliance with medical treatment programs for chronic illnesses.[11] Although a modicum of improvement with health-related behavior may result from the brief counseling during the pre-placement examination, reinforcement of these concepts and other voluntary health actions during subsequent periodic examinations are likely to have a broad and sustained effect on an individual's health behavior choices.

A fourth, but indirect, role of the pre-placement examination is to uncover significant asymptomatic health conditions among applicants which require follow-up and treatment by the personal physician. Although intended primarily to answer questions regarding their physical capacity to perform specific job duties, the pre-placement examination provides a limited review of an individual's health status. The examination may reveal the existence of hypertension, urinary tract infections, respiratory or cardiac conditions, or visual and hearing disorders. These findings may not be of significance in the decision to place the applicant at work but may require follow-up and appropriate care by the personal physician to maintain optimal health.[12]

The practice of performing pre-placement (or pre-employment) examinations has been widely accepted for many years by both industry and the medical community. For some occupations, specific federal regulations require detailed pre-placement as well as periodic examinations. The federal Aviation Administration requires such examinations on pilots and air traffic controllers while the Department of Transportaition requires examinations on drivers of commercial vehicles engaged in interstate commerce.

State and local government health regulations to control infectious disease transmission often mandate pre-placement health examinations for food service personnel. In addition, some hospitals and health care facilities have instituted pre-placement examinations. A particular focus of these examinations is on evaluating the immunization status of an applicant. These facilities hope to protect immunologically compromised or seriously ill patients from the potential transmission of common viral illnesses by hospital personnel lacking immunity to these illnesses.[13,14]

While pre-placement (or pre-employment) examinations have been performed in industry for many years, efforts to investigate the value and usefulness of these examinations have only been conducted recently. The use of detailed questionnaires in place of physical examinations has been advocated, with follow-up investigation by medical personnel for significant positive responses.[15] Others have suggested that multiphasic testing or screening by paramedical personnel be used for pre-placement examinations, with a final review by a physician.[16,17]

Controversy also surrounds the clinical studies which may be included in the pre-placement examination. Some individuals view radiographs of the lower back as valuable in pre-placement decisions while others believe they have little utility in predicting future potential for back disorders or disability.[18] Opinions are also mixed on the use of a pre-placement health history or on the value of conducting an examination in certain situations.[19]

Several authors have suggested that a minimal, if any, pre-placement examination need be conducted for individuals who will work in jobs involving light, non-hazardous duties.[18] The authors recommend that pre-placement examinations be provided primarily to persons who are to perform hazardous or strenuous work to ensure that the applicant's physical abilities satisfy the physical requirements of the job. It is hoped that this matching of physical abilities and task demands will minimize work injuries and assure safe job performance.

Because of the need to carefully assess the applicant's physical abilities relative to the physical tasks of the job, the examining physician (as well as the applicant) must have a clear understanding of the nature and requirements of the job. This information should be provided to the physician by the employment office in the form of a brief, but informative, job description.

The job description should clearly identify the essential job tasks involved, such as the bulk of weight or loads to be moved or lifted, the frequency of such materials handling, and the extreme strength requirements likely to be encountered. With this information, the physician will be able to conduct an appropriate pre-placement examination and provide management as well as the applicant with an evaluation of the potential employee's ability to safely and effectively perform specific tasks which are essential and related to the job.[21] The decision to employ an applicant is made by management personnel, following review of information gathered from interviews, pre-employment tests, and the physicians evaluation of the pre-placement examination. Recent articles examining questions about pre-placement examinations have suggested that companies study and document strength performance requirements for specific jobs and that pre-placement strength testing procedures be developed which will aid in selecting qualified workers for these strenuous tasks.[22,23] If strength tests are included in the pre-placement examination, these should only be conducted after the medical history has been reviewed for significant illnesses, such as coronary heart disease and musculoskeletal conditions, and the physical examination performed. The understandings developed from the job description of the essential physical activities involved in the job will guide the physician in selecting which physical attributes of the applicant to evaluate.

The employment office should also advise the physician of any potential exposures during job activities to hazardous materials or substances covered by regulations. In this situation, it will be beneficial to obtain appropriate baseline (or pre-exposure) laboratory and clincial studies as the initial determinations if an individual will be participating in a periodic workplace medical surveillance or biological monitoring program.

Because each pre-placement examination is intended to evaluate the ability of that applicant to perform specific and job-related activites, pre-placement examinations will vary considerably in the detail and amount of historical review and specific physical assessments as well as in clinical and laboratory components.

For example, pre-exposure blood lead levels may be obtained during the pre-placement examination on individuals who will have significant work activities with lead compounds. Blood lead levels, however, would be of little value in a pre-placement evaluation of applicants for secretarial or clerical positions at the same location having no potential lead exposure. In addition, a review of musculoskeletal and neurologic health history and detailed assessments of physical function may be provided to persons applying for strenuous work involving manual materials handling but may not be provided in such detail to applicants for positions having largely sedentary duties.

In general, pre-placement examinations will not be as thorough as a periodic or general physical examination. They will also vary in response to the potentials for exposure to hazardous materials, and the need to evaluate the applicant's ability to perform essential job actions. For individuals potentially exposed to hazardous substances, the pre-placement examination will also be valuable in developing baseline health and clinical data on workers for comparison with results from subsequent periodic examinations and medical surveillance programs monitoring the health of employees and seeking to detect incipient illnesses related to occupational factors.

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The Role of Periodic Occupational Health Examinations

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ABSTRACT — Occupational Health Examinations are conducted to monitor the health of employees having potential exposures with workplace substances. Because occupational medical surveillance will be conducted periodically, pre-placement health data obtained at the start of company employment serves a vital role as a baseline for comparison with data derived from periodic examinations. As with the voluntary check-up, periodic Occupational Health Examinations are usually performed on asymptomatic individuals. The content of an Occupational Health Examination, however, varies according to clinical case reports, industrial hygiene and toxicology information on substances in use in the individual workplace. Clinical information developed during the periodic Occupational Health Examinations should be utilized as an important supplement to the employee's personal health care program.

During the past three decades, medical research has expanded knowledge of disease causation and identified factors associated with the risk of disease development.[1-4] Application of this knowledge has led to more effective use of scarce and costly health resources through screening and periodic medical examinations to identify and treat individuals having these risk factors. In some situations, for example hepatic angiosarcoma and pleural mesothelioma, the risk of developing these tumors has been related to overexposure to vinyl chloride and asbestos respectively.[5,6] Excessive workplace exposures to other substances have also been related to specific illnesses. Additional examples include alkyl mercury compounds and neuropathy, trimellitic anhydride and asthma, and some aromatic amines and bladder cancer.[7-9]

While interest in occupational medicine has increased recently, research in this area is far from new. In 1556, a treatise by Georgius Agricola described occupational illness associated with gold and silver mining.[10] A century later, Bernadino Ramazzini began his studies on health conditions among workers in various occupations. His observations, entitled *Discourse on the Disease of Workers,* were published in 1700.[11] In the nearly three centuries following this work, the literature in occupational medicine has been expanded by reports from numerous international investigators. Case histories and clinical observations describing health conditions among workers in early mining and manufacturing industries provided much of the fundamental knowledge regarding occupational illness. More detailed information about disease causation from excessive workplace exposures has been developed recently from investigations involving both epidemiology and clinical toxicology.[12-14]

In 1970, Congress created the Occupational Safety and Health Administration (OSHA) and empowered it to develop occupational health standards which would promote safety and protect the health of the American worker. Congress also established the National Institute for Occupational Safety and Health (NIOSH) and gave it responsibility for investigating workplace health hazards and conducting research to provide OSHA with recommendations for occupational health standards.

Since 1971, OSHA has issued and proposed over 20 occupational health standards requiring detailed periodic medical examinations and clinical testing for individuals working with specific substances. These include asbestos, acrylonitrile, arsenic, benzene, lead, cotton dust and vinyl chloride monomer.[15] OSHA, however, is one of a number of regulatory agencies requiring periodic examinations on workers. Other agencies requiring periodic examinations for individuals in specific jobs include the Federal Aviation Administration (aviation physicals for pilots) and the Federal Highway Administration (Department of Transportation physicals for drivers of commercial vehicles).

The increasing awareness of both employees and employers regarding occupational health has prompted many companies to institute periodic medical examinations to search for the development of health conditions among their employees which may relate to the work environment. This is viewed by many as essential for determining the current status of employee's health relative to the physical, chemical, and biologic agents in use in the workplace, and for monitoring health conditions which may develop over time. It is thought that periodic medical examinations will lead to the early diagnosis of occupational illnesses, prompt identification and proper control of the agents involved, and rapid treatment of the illnesses detected.

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Although much of the initial interest in conducting periodic examinations was prompted by considerations of regulatory compliance as well as concern for early detection of work-related disease, major benefits can result to both the employer and employee from promotion of health education to employees. The employee has become aware that occupational factors may influence his health. Perhaps more important is the individual's realization that certain personal habits may influence health and that it is his responsibility to remedy these conditions. Examples include cigarette smoking, excessive alcohol ingestion, obesity, physical inactivity, and compliance with physician-directed care for such chronic conditions as hypertension and diabetes mellitus.

This expansion in demand for periodic health examinations comes at a time of rising expectations in, and costs associated with, health care.[16,17] Recent articles have questioned the value of performing periodic medical evaluations on apparently healthy individuals, recommending instead that periodic health examinations be used primarily for the diagnosis of newly symptomatic disease or reviewing patients with previously recognized illnesses.[18] Others have suggested that screening programs for carefully selected health conditions be provided to asymptomatic individuals, utilizing multiphasic testing, detailed questionnaires, or paramedical personnel to identify high risk individuals for further review.[19,20]

The periodic Occupational Health Examination is also conducted on a largely asymptomatic population but this examination differs in scope from that of a general physical examination in seeking detection of health conditions or illnesses which may relate to occupational factors. Although some elements of the occupational examination are common to the general examination (such as demographic and biometric data, health history review, physical examination, and selected clinical and laboratory testing), the Occupational Health Examination involves more detailed consideration of certain elements. Thus, extensive review and evaluation should be made of the individual's past and current work and recreational activities, of changes in physical condition which might limit work strength, and of alterations in biological monitoring studies which suggest exposure to certain substances.

For example, the employee's past and present work activities and recreational pursuits should be reviewed to determine what noise exposures are involved and how this relates to the employee's current hearing ability. In addition, the work strength of many individuals changes with age and the periodic Occupational Health Examination should determine if the employee's physical condition is appropriate to safely perform the essential elements involved in specific job assignments. In the case of biological monitoring, such studies will usually allow for investigation of potential workplace exposures through detection of reversible biochemical or physiological changes before significant illness develops.

Of all the occupational health examinations performed, probably the most important is the pre-placement examination. Although much has been written which argues for and against these examinations, the preplacement examination is vital to the development of detailed baseline (pre-exposure) data on an individual, as well as providing recommendations for appropriate placement of the applicant.[21-23] Once the pre-placement findings are obtained, physical, clinical or laboratory findings from subsequent periodic examinations may be contrasted to these baseline data. Evaluation of these data will aid in determining the significance of health changes in an individual as well as assessing whether a trend among findings in a group of workers is suggestive of a work-related health effect in need of further investigation. The occupational health examination, should be viewed as a dynamic process, responsive to changes in the workplace and among participants. The content of the periodic examination for an individual will vary according to working duties and job classifications as well as with the introduction of new substances or production processes in the workplace.

Although the occupational health examination seeks to identify illnesses or conditions relating to *occupation,* it will identify many common non-occupational illnesses such as cardiac, respiratory or dermatologic conditions among participants. Identification of occupationally related conditions will necessitate a full investigation of the following: (1) a thoroughly developed history and complete physical examination; (2) knowledge of the route, severity, and length of exposure; (3) the existence of signs and symptoms consistent with pathophysiology resulting from exposure; and (4) clinical and laboratory findings which define the extent of exposure and characterize the individual's health.

In order to facilitate detection of occupationally related illnesses, periodic occupational health examinations (including the pre-placement) must be conducted in a consistent manner which will allow for collection of the health, clinical, and laboratory data and promote use of this data in clinical toxicology and epidemiologic studies. Closely associated industrial hygiene data which quantify exposure potentials for various work areas and assignments should also be gathered for subsequent use in occupational health studies.

The data collected will also permit detailed investigation of whether illnesses are related to length of employment, specific work areas or job assignments, certain substances in use or possible synergistic health effects from multiple exposures as in the case of smoking and asbestos exposure.[24] Several computer-assisted information systems have been designed for this purpose and a number of authors have reported on development work in this area.[25-28]

The unified medical record and industrial hygiene data systems offer the following advantages:

1. Information is gathered and maintained on substances and hazardous materials in the workplace.

2. Employees having potential exposures to hazardous materials will be monitored through a uniform and consistent data system.
3. Periodic medical surveillance data will be joined to workplace exposure monitoring data to facilitate clinical toxicology or epidemiologic studies.
4. Use of a unified data system will allow prompt retrieval, analysis, and documentation of medical surveillance and industrial hygiene activities which are required for regulatory compliance.

The performance of periodic examinations and development of detailed laboratory and clinical findings which are correlated to workplace industrial hygiene data can be of major significance in evaluating clinical, metabolic, and pharmacokinetic data developed from experimental toxicology. Because of incomplete records on human exposures, most previous epidemiologic studies were unable to detect anything other than a major health effect such as premature mortality of excessive morbidity. The value of animal toxicology studies on new or existing substances in making judgements regarding human health are complicated by questions of dose-response, brief animal lifespan, and species-specific metabolic actions.[29-30]

While the data from occupational health examinations may not answer all these questions, it will provide the potential for ongoing assessment of health effects among individuals working with specific substances. Where experimental studies indicate that laboratory animals, such as the rat or rabbit, have metabolic systems comparable to man, veterinary toxicology studies of the absorption, biotransformation, and excretion of workplace substances may be of great value in human health risk assessment and preventive occupational medicine. Questions which may be answered from these kinds of studies include work-related effects on fertility, genetic materials, and immunologic competence.

From knowledge gained from these studies, periodic occupational health examinations will be expanded to include specific testing which will identify incipient illnesses related to workplace exposures. Early detection of these developing illnesses will allow prompt treatment to restore health as well as permit action to correct workplace exposures. Through these efforts, the prevention of occupational illness, the goal sought by Agricola, Ramazzini, and all physicians providing occupational health care, can be realized.

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The Role of the General Hospital in Occupational Health Care

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ABSTRACT — An outline of the services offered by a general hospital to those in the practice of Occupational Medicine is presented. The services encompass the emergency facilities and the use of computerized diagnostic equipment. Training and staffing programs for physicians and nurses and educational programs for employees are discussed.

Traditionally, the general hospital has accepted the role responsibility for the actue toxic exposure, major traumas and acute illnesses that occur with varying periodicity in the working community. This has been and will continue as their undisputed role but other areas less well known and equally important to industry are awaiting acceptance and recognition. Sophisticated medical technology, equipment and training techniques as well as trained personnel are being offered on an outpatient basis to the healthy populace. The employed populace comprise a major portion of this group. Preventive medicine is assuming a major place in the outpatient areas of the general hospital.

Major hospitals must maintain and staff an Emergency Room for all who consider they have an emergency. In spite of income generated, the cost of equipment and twenty-four hour staffing does not make it a profitable enterprise. The emergency room has become the primary medical care facility for many socio-economic groups but it is possible to find an effective triage to separate the acute and traumatic from the not too acute by establishing auxiliary units. Those industries who do not have full-time or even part-time medical coverage often find it expeditious to use emergency room service. They should expect to receive prompt treatment for their traumatic cases. It is propitious for them to call ahead and to alert the emergency room as to what to expect.

To insist that all employees returning from illnesses have a medical excuse in order to receive sick benefits appears to be a costly way of trying to control the short term sick absences. The company must also bear the ER cost for real or imagined gastrointestinal or respiratory illnesses. What physician can honestly attest post facto to a minor illness? Such medical excuses are an unnecessary and onerous burden on the ER physician.

A myriad of ER abuses by the so called injured employee are frustrating to both industry and the hospital. Frequently, ER visits are made for second opinions. The employee is injured at work, often x-rayed and competently treated only to find his way to the ER. He does not state he has been x-rayed and treated and the procedure is repeated. Unfortunately, some primary physicians may neglect to provide for pain occuring after the initial trauma and the patient comes to the ER seeking pain pills. The answer to these problems and many others of a similar nature necessitate a liaison between industry and the general hospital. Such liaison is also necessary for billing and follow up reports. A general hospital should have a single agency coordinating its industrial activity.

The joint utilization of computerized technology is being offered by the hospitals and gaining acceptance as part of the industrial medical facility. A telephone jack and basic ECG recorder can bring the cardiologist and his computer read equipment into the industrial medical facility on an emergency stand by basis. Our hospital has a number of these units in operation which are of mutual benefit not only for emergency use but also for periodic physical evaluations.

A similar type of equipment can also be used for pulmonary function screening which some companies must do periodically to satisfy the Occupational Safety and Health Administration recommendations. In some communities the local hospital may provide the most accessible and effective site for performing audio metric, blood and urine screening, chest x-ray and tuberculin skin testing.

The full-time occupational nurse and physician work in an environment isolated from the medical community which centers around the general hospital. The updating of their general knowledge and expertise must of necessity come from daily journal perusal, occasional night specialty meetings with after dinner speakers and annual organizational meetings on specialty subjects relating to

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occupational problems. As medical advisors to the industrial community, they are called upon for primary medical advice and a second opinion in many intricate situations about which their general medical knowledge may be rather sketchy or obsolete. The general hospital, particularly if it has residents and interns in training by affiliation with a medical school, has numerous programs which can be made available to the industrial medical providers at times compatible with their job responsibilities, nights and Saturdays. Certification in cardio-pulmonary resucitation should be a necessary prerequisite for those in an occupational medical facility.

It is not only possible but it may be expedient for general hospitals to train and pool occupational health nurses. Many smaller industries are unable to afford or utilize a full-time nurse but would have use for a trained industrial nurse on a part-time basis. The general hospital has frequent requests for part-time work from ''ex-nurses'' who are housewives who would like to continue their training and be employed in industry. No nights, weekends and holidays is appealing. The trained nursing pool would be accessible to industries employing full-time nurses who may be absent due to illness or vacation.

The occupational health service of a general hospital has knowledge of and ready access to the many supporting specialist services that may be called upon in industrial health problems such as pulmonary, hematology, audiology, cardiology, dermatology, neurosurgical, orthopedic, surgical, radiology. General hospitals maintain complete physical medicine departments which offer extensive services in rehabilitating injured or debilitated employees. Cardiac stress testing and rehabilitation are also a part of hospital services offered to industry.

In the process of evaluating in-plant exposures and occupational hazards, the occupational nurse and physician may find the services of the library most useful. The librarians will compile bibliographies, make copies of requested papers and text articles and perform computerized material searches for a nominal fee. The library is opened to medical personnel to conduct their own research and study program. Audiovisual learning aids are available on many subjects. The library is also able to obtain copies of all government documents released to the general or medical public.

The Department of Psychiatry has full facilities to do psychometric testing and psychiatric counselling. Group therapy sessions are now being utilized by employed individuals.

Health education panels and programs for groups of employees are being scheduled on such diverse subjects as nutrition, weight control, blood pressure control, alcohol, drug abuse and other subjects affecting a healthy life style. The hospital routinely conducts seminars on fitness and exercise, stress management, smoking cessation, accident prevention, self-protective measures and cardiopulmonary resucitation.

Recognizing a need for an interrelationship between community occupational health facilities and itself, the general hospital is programming equipment and personnel into a broad preventive medical complex. The present and future health of the worker can best be served by controlling his exposure and maintaining surveillance over his body systems.

Patterns of Occupational Skin Disease: Experience of a University Clinic

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ABSTRACT — The Occupational Skin Disease Clinic (OSD) at the Yale-New Haven Hospital is the first and only one of its kind in New England. During the initial year of service a total of 169 workers were evaluated through the hospital based unit (67 workers) and a field studies consultation program (102 workers). Workers in metal machining industries and epoxy-type plastics operations accounted for more than half of all cases. Demographic patterns, job description and diagnostic considerations are reviewed. It is becoming increasingly clear that many of the cutaneous, technical, social and legal problems of the worker-patient are unique and difficult to quantitate. The OSD clinic offers a valuable setting for clinician and basic research scientist to explore newer methods to prevent or control these disabling conditions.

Introduction

In March of 1980 a subspecialty clinic was established at the Yale-New Haven Hospital expressly for occupational skin diseases (OSD). Inasmuch as a dedicated re-

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Table 1
AGE OF WORKERS ATTENDING OCCUPATIONAL SKIN DISEASE CLINIC BY RACE AND SEX, 1980-81

	All Patients			*White*			*Black*		
Age	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*
<21	3	3	—	3	3	—	0	—	—
21-30	18	12	6	16	12	4	2	—	2
31-40	16	10	6	13	9	4	3	1	2
41-50	11	6	5	8	5	3	3	1	2
51-60	14	14	—	14	14	—	0	—	—
61-70	5	5	—	5	5	—	0	—	—
	67	50	17	59	48	11	8	2	6

ferral and consultation resource had not been previously available in Connecticut, the OSD Clinic was created to serve the perceived needs of health professionals, labor organizations and industrial management with respect to worker health. Such perceived needs went beyond the more traditional 'crisis oriented' care provided for most dermatology patients to include (1) the assessment of specialized, often unique exposure factors; (2) analysis of epidemic skin disease within the workplace milieu; and, (3) the development of preventive programs designed to focus on worker groups at risk for occupational skin disease. Utilization of the OSD Clinic during its initial period of operation is described herein from the standpoint of our hospital-based unit and a field studies consultation service.

The Hospital Clinic

Worker patients are seen in the OSD Clinic on a weekly basis. Priority is given to those having acute illness. A questionnaire, administered by clinic personnel, is designed to record demographic information, organized labor affiliation (if any), source of referral, detailed occupational history, background data regarding the cutaneous illness and potential contributory medical factors (eg., intercurrent illness, drug intake, etc.)

Demographic Observations

A total of 67 workers were seen in the clinic from April 1980 to June 1981 (Table 1). The mean age of all patients was 39.7 years (range 17-66 years). Male workers (mean 41.6 years) were considerably older than female workers (mean 34.1 years). The distribution of patients by sex showed a male predominance. The sex ratio of males to females was 2.9:1. The racial composition of the series included 8 patients who were black (11.9%); the remainder were white.

The largest proportion of patients attending the clinic were self-referred (35.8%). Labor unions accounted for one-quarter of the referrals (25.4%). Occupational health physicians, usually based in corporate medical facilities, referred about 20% of the patients to the clinic while other community (non-occupational) physicians requested 13% of the clinic consultations. The remaining patients were sent to us by an employer in two instances and in one case each by a lawyer and an insurance carrier for a "second opinion" regarding diagnosis.

Job Descriptions

A striking proportion of the patients (33 of 67) were employed in the metal trades as machinists (17/33), machine maintenance or set up workers (5/33), burr-bench operators (3/33), welders (2/33) and other miscellaneous jobs (6/33) (Table 2). There were 5 plastics workers but in general, job designation for the remaining workers covered a wide spectrum of occupational settings.

Table 2
OCCUPATIONAL BACKGROUNDS OF WORKERS WITH SKIN DISORDERS SEEN THROUGH THE OCCUPATIONAL SKIN DISEASE CLINIC OF THE YALE-NEW HAVEN HOSPITAL

Job Description	*Clinic*
Metal Work	
Machinists	17
Machine Maintenance	5
Burr Bench	3
Welder/Solderer	2
Miscellaneous	6
Plastics Molder	5
Chemical Handler (misc.)	3
Hospital Worker	4
Painter	2
Food Service	2
Laboratory	2
Electrical	2
Office	2
Other	12

Diagnoses

A specific skin disease, likely to be caused by occupational factors, was identified among 41 of the 67 worker-patients (61.2%) (Table 3). Irritant contact dermatitis was the most frequently encountered condition (18/67). More than half of these cases involved exposure to 'cutting fluids' in machining operations. Other etiologic agents included soap, water and acid or alkali exposures. By comparison, allergic contact dermatitis was next in overall frequency (13/67). The diagnosis in these cases was established by chemical skin testing using the North American Patch Test Series* and, where necessary, commercial agents to which the worker was exposed. In 5 of the cases there were two or more allergens to which the

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*The North American Patch Test Series is comprised of 23 individual and mixed chemical groupings that are the most currently prevalent sensitizing agents in the general population. Most of the chemicals are prepared in a petrolatum vehicle, placed under an occlusive patch on the skin and the test site is examined after 48-72 hours for signs of reactivity.

Table 3
DIAGNOSIS OF SKIN DISORDERS AMONG WORKERS SEEN IN THE OCCUPATIONAL SKIN DISEASE CLINIC OF THE YALE-NEW HAVEN HOSPITAL

	Total
Specific Diagnosis (Occupational)	(41)
Irritant Contact Dermatitis	18
Allergic Contact Dermatitis	13
Urticaria	2
Acne Vulgaris	2
Skin Staining (exogenous)	2
Psoriasis (palmar)	2
Vibration-Induced White Finger Syndrome	1
Petechial Eruption	1
Uncertain Primary Diagnosis (Occupational)	(5)
Irritant Contact Dermatitis/Dyshidrotic ecema	3
Allergic Contact Dermatitis/Psoarisis (palmar)	1
Allergic Contact Dermatitis/Nummular eczema	1
Uncertain Relationship to Occupation	(10)
Allergic Contact Dermatitis	4
Acne Vulgaris	2
Scleroderma	2
Lupus Erythematosis	1
Hand Eczema	1
Other (Occupational)	(1)
Solvent Narcosis	1
Non-occupational	(10)
Tinea (fungal)	3
Xerosis	3
Seborrheic Dermatitis	1
Acne Rosacea	1
Alopecia Areata	1
Nosebleeds	1

patient was reactive (Table 4). In one case the worker reacted positively to 8 different chemical groupings. Considering all patch test reactions, paraphenylenediamine occurred most frequently. There was no dominance by a single allergen otherwise in this small sample of patients. It was of interest that persons with multiple sensitivities were quite likely to have developed allergies to chemicals found in cosmetics (eg., imidazolidinyl urea; hydroxycitronellol; cinnamic aldehyde; Quaternium 15).

There was a number of cases (5/67) with strong histories of occupationally-related skin conditions but concommitantly presenting acute and chronic features (Table 3). In each instance, the acute disorder (irritant or allergic contact dermatitis) appeared to unmask the chronic disorder (dyshidrotic eczema, psoriasis of the palms, nummular eczema). In other cases (10/67) workers had cutaneous diseases that appeared in an occupational setting but these skin conditions were not obviously related to the historical circumstances of exposure.

One worker presented with an occupational illness which was not related to the skin directly, however, the sensation of skin tingling prompted a referral to the OSD Clinic. The remaining 10 patients (15%) had well-defined skin diseases which were clearly nonoccupational (Table 3).

Some of the occupational, medical, social and legal problems quite typical of a work related skin condition are illustrated in the following case report.

Case Report

A 36 year old male, employed as an assembly-line worker, was referred to the OSD clinic by his labor union in June, 1981. He described a persistent eruption involving the upper extremities of four years duration. The initial lesions appeared as red, scaling patches on the hands and forearms associated with itching. The condition fluctuated in severity despite cortisone cream applications which had been prescribed for several years. During the two months preceding his clinic visit a similar rash appeared on his facial skin and painful fissures developed in all involved areas. There was no other family or personal history of cutaneous disease and a general review of systems was unremarkable.

An occupational history revealed that the patient had been working continuously for four years in an assembly-line operation of a computer products manufacturer. His job entailed the manual application of adhesive and sealing compounds onto the seams and joints of metal cabinets. He was unable to provide precise chemical names. The use of personal protective gear was optional, consisting only of rubber gloves. Sleeves, apron and uniform were not available. His street clothes were frequently contaminated with bonding materials. Until quite recently he noted substantial improvement in his skin condition while away from work on extended weekends and vacation periods.

On physical examination the patient was a healthy appearing man but in obvious discomfort. Red, scaling lesions were distributed circumferentially around both upper extremities to the elbow. Vesicles and fissures were present on the palmar skin. There were several red, scaling patches around the face and neck. The remainder of the cutaneous examination, including the nails, hair and mucous membranes appeared normal.

Given the temporal relationships of his current job to the history of onset and character of the skin condition, we suggested immediate medical leave from work. The results of diagnostic chemical patch testing revealed cutaneous hypersensitivities to a wide array of rubber and epoxy-related materials. The patient was advised of having acquired an allergic contact dermatitis likely attributable to chemical exposures on the job. He was provided with information regarding sources in the general environment where these chemicals might be encountered.

As is often the case after a long period of exposure to allergic substances, the patient recovered slowly. He required four months of therapy before he was sufficiently well enough to return to work. In the interim, the company decided to terminate his employment and advised him to apply for 'Unemployment Compensation.' He was ultimately forced to seek legal assistance. Shortly thereafter, he was more appropriately awarded Workmen's Compensation benefits. The benefits covered medical bills, lost work salary and a tuition-paid rehabilitation program. In this way he was provided with a completely new set of skills, enabling placement in an occupational setting where exposure to specific chemical allergens would be unlikely.

Field Studies

There have been seven field studies initiated at the request of Connecticut based industries (Table 5). Four of these evaluations have involved outbreaks of skin disease among employees in epoxy plastics operations while two of the evaluations focused upon workers involved in cutting and grinding processes. There is one other current investigation of skin eruptions among workers in the administrative offices of a large pharmaceutical manufacturer.

Each of the evaluations has consisted of one or more visits to the requesting facility. The analytical approach to a potential cutaneous hazard incorporates on-site interviews with management and labor, a walk through survey of the facility and, where necessary, a more in-depth

Table 4
CAUSAL FACTORS IDENTIFIED FOR CASES ATTENDING THE OCCUPATIONAL SKIN DISEASE CLINIC OF THE YALE-NEW HAVEN HOSPITAL

Specific Diagnosis (Occupational)	*Agent (number of cases)*
Irritant Contact Dermatitits	Metal working fluids (10)
	Soap/water (4)
	Citrate/water (1)
	Solvent cleaner (1)
	Nitric acid (1)
	Adhesive/Water (1)
Allergic Contact Dermatitis	Paraphenylene diamine (2)
	Chromium (hexavalent) (1)
	Nickel (2)
	Paraphenelene diamine; cinnamic aldehyde (1)
	Lanolin; imidazolidinyl urea (1)
	Ethylenediamine; imidazolidinyl urea; formaldehyde; Quaternium 15 (1)
	Epoxy; thiuram (1)
	Epoxy, paraphenylenediamine; black rubber; mercaptobenzothiazole; Thiuram; PPD mix*; chromium (hexavalent); hydroxycitronello (1)
Urticaria	Pressure (1)
	Epoxy chemicals (2)
Acne	Metal working fluid (2)
Psoriasis (Palmar)	Friction (2)
Vibration-Induced White Finger Syndrome	Pneumatic drill (1)
Petechial Eruption	Xylene
Uncertain Primary Diagnosis (Occupational)	
Irritant Contact Dermatitis/Dyshidrotic Eczema	Metal working fluid (2)
	Solder flux (1)
Allergic Contact Dermatitis/Psoriasis (Palmar)	Chromium (hexavalent) (1)
Allergic Contact Dermatitis/Nummular Eczema	Chromium (hexavalent) (2)
Uncertain Relationship to Occupation	
Allergic Contact Dermatitis	Thimersol (2)
	Paraphenylenediamine (1)
	Formaldehyde; parabens (1)
Lupus Erythematosis	Mercury (systemic) (1)
Scleroderma	Metal 'pickling' solution (1)

*Antioxident Chemicals

Table 5
FIELD STUDIES CONDUCTED THROUGH THE YALE OCCUPATIONAL SKIN DISEASE CLINIC

Industry	*Operation*	*Diagnosis*	*Casual Agent*	*No. of Employees*
Metal Ball Mfg.	Cutting/Grinding	Irritant Contact Dermatitis	Semisynthetic Coolant	8
Aerospace	Epoxy Plastics	Skin Staining	4,4′-Diamino-diphenylmethane	65
Plastics Products	Epoxy Plastics	Allergic Contact Dermatitis	Bisphenol A* Triethylenetetramine	7
Aerospace	Epoxy Plastics	Allergic Contact Dermatitis	Bisphenol A*	22
Metal Rod Mfg.	Cutting/Grinding		. . . Incomplete (c/o** skin rash)	
Filtration Apparatus	Epoxy Plastics		. . . Incomplete (c/o skin rash)	
Pharmaceutical Mfg.	Administrative		. . . Incomplete (c/o skin, eye, nasal, irritation)	

*Based on positive patch test reactions to the chemical (allergens)
**c/o = complaint of

study of the problem, quite often drawing upon the expertise of other disciplines (eg., industrial hygiene, toxicology, epidemiology). It has been essential in certain instances to document workroom concentrations of an airborne contaminant or to clarify by laboratory analysis the composition of materials handled by the worker.

At the conclusion of each field study, a detailed characterization of the illness and causal factors, as well as recommendations to ameliorate the problem are provided in a final written report. We have found it particularly valuable to meet with management, labor and other related agencies to interpret our findings. In this regard, it has become increasingly apparent to us that recommendations for and compliance with preventive measures can only be affected in an atmosphere of cooperation.

Report of a Field Study

Pursuant to a request for occupational dermatologic consultation services, a site visit and in-plant survey was conducted at a metal ball manufacturing facility. The visit was prompted by an outbreak of skin eruptions among workers employed in the "grinding operations." Dermatologic complaints began in late July and early August of 1979 shortly after a new coolant* was introduced for certain aspects of the grinding process. Five employees developed mild to moderate skin reactions involving the hands and forearms. Three additional workers developed an itchy rash on their backs, as well. Several of the workers were sent to a community physician who regularly cared for employees at this company. Skin reactions persisted despite therapy with a strong cortisone cream and the workers were sent to a dermatologist. Further treatment consisted of a siliconized protective (barrier) compound, as well as "industrial" gloves for routine hand protection. All of the affected employees were instructed to wash their hands frequently (4 or more times a shift). Harsh abrasive soaps were supplied in the wash room. Although disability, reflected in lost work days, had been minimal, plant productivity was declining as more of the work force developed dermatitis. Because of these factors, additional consultation was sought through the OSD clinic at Yale.

Four discrete work areas were identified during the in-plant survey. These work areas included: (a) header operations; (b) flasher and grinder processes; (c) barrel operations, and; (d) inspection and packaging. Steel wire in a wide range of gauges is the basic raw material of ball manufacture. The wire is fed from large shipping spools into a machine called the "header." During this automated process, the wire is cut into short segments and the segments are compressed into a spherical shape. A few employees service more than 15 machines; there is minimal exposure to motor oil from the header machinery.

The coarsely shaped spheres are subsequently taken to another plant area where 'flasher' and 'grinding' machines are housed. Flasher operations induce metal fatigue as part of a grinding process designed to remove a circumferential fin left on each ball by the header. Another crude oil product is used during flashing to reduce friction. Grinding machines are then used to further shape and reduce the balls to precise size. A synthetic coolant was used on all but a few grinding machines; the latter employed a so-called, straight cutting oil.

Large volumes of metal working fluids (crude oil, synthetic coolant or straight cutting oil) flood through the flasher and grinding machines continuously. At various points in the grinding process, the balls are taken to another department where 'barrel' machines refine surface features, producing a polished effect. Inspection and polishing follow this last phase. In general, production workers operate only one type of equipment (eg., header, flasher, grinder, barrel machines).

Five of the employees with an active skin condition were interviewed and examined (Table 6). All of the workers had an eczematous eruption which occurred in skin areas of maximum coolant exposure. One employee with a characteristic cutting oil rash (consisting of comedones and inflammatory acne papules) was responsibile for the grinding machines where the straight cutting oil was used exclusively.

The information obtained during discussions with plant management and labor groups, combined with critical observations of manufacturing processes implicated the synthetic coolant (used in grinding areas) as the major cause of employee dermatitis. These data may be summarized as follows:

1. All dermatologic problems post-dated introduction of the synthetic coolant for grinding operations.
2. With one exception (a new employee) only the workers who developed dermatitis were in contact with grinding machines. Skin rashes did not occur among employees in header, barrel and inspection areas of the plant despite exposures to motor oil and conventional cutting oil solutions.
3. Employee dermatitis was confined to skin directly exposed to coolant, that is hands and forearms (especially for those using short sleeve shirts). The 'set-up man' was the one worker observed with skin involvement on the back. On the day of the in-plant survey his shirt was impregnated with oil stains, presumably from contact with oil laden equipment.
4. The pH of the coolant solution was greater than 10. Refractometer measurements at the time of the pH determination indicated an 8% coolant solution, twice the recommended strength.

One other predisposing factor for employee derma-

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*A coolant is a synthetic or semi-synthetic metal working fluid designed to reduce friction and flush away metal filings and chips generated during machining operations. A naturally occurring vegetable oil or mineral oil-type metal working fluid is usually termed a 'straight cutting oil.'

Table 6
WORKERS WITH DERMATITIS AT A METAL BALL MANUFACTURING PLANT

Worker	*Age*	*Shift*	*Job Description (yrs. employed)*	*Rash Present*	*Exposure*	*Comment*
#1	25	1st	"set-up" (6 yrs.)	8 mos.	Lusol 200** Wesson Oil** PB 511**	eczema: H,F,B*
#2	59	1st	grinder (20 yrs.)	7 mos.	Lusol 200	eczema: H,F
#3	53	1st	grinder (20 yrs.)	9 mos.	Wesson Oil Lusol 200	comedones: F,T eczema: H,F
#4	49	2nd	grinder (1.3 yrs.)	8 mos.	Lusol 200	eczema: H,F
#5	35	2nd	flasher (0.9 yrs.)	1 mo.	Lusol 200 PB 511	eczema: H,F

*H = hands; F = forearms; B = back; T = thighs

**Lusol 200 (Anderson Chemical): synthetic coolant; Wesson Oil (Wesson): straight cutting oil; PB 511 (Quaker State): Motor Oil.

titis may have been excessive hand washing with strongly alkaline cleansing materials. Alkaline and abrasive cleansers tend to reduce the normal barrier function of the skin and enhance the irritant properties of chemical agents in the work place. There is little doubt that failure to wear adequate protective gear for hands, forearms and trunk also contributed substantially to the development of skin problems.

The history of marked improvement of this eczema condition on extended weekends and vacations strongly suggested that the coolant exposure precipitated an irritant rather than an allergic contact dermatitis. A series of preventive measures addressed some of the requisite elements of an industrial hygiene program (machine splash guards, caution signs, protective clothing, personal hygiene and worker education) as well as medical considerations (pre-employment and periodic screening and medical facilities). Shortly after the implementation of a protective clothing program, employee dermatitis ceased to be a problem.

Discussion

It is well established that occupational skin diseases (OSD) comprise the largest percentage of all work-related illnesses[1-3] On the federal level, data compiled by the Bureau of Labor Statistics (BLS) indicates that 45% (73,000 cases) of all occupational diseases are cutaneous in nature.[4] The extent of this problem is likely to be substantially greater in light of two independently conducted studies that have identified serious under-reporting and very poor quality for the BLS data base.[5,6] Estimates of the true incidence of OSD range from 10-15 times that which is currently recognized; this could vary from 744,000 to 3,720,000 cases a year.

A detailed demographic analysis for OSD in the United States is not available. Nonetheless, crude disease rates can be compared among reporting industries. Workers employed in agricultural and manufacturing industries experience higher rates of skin disease than those in other categories.[7] For example, the agricultural industry employed only 1 percent of the workforce in 1976, while 4 percent of all OSD occurred among agricultural workers. Similarly, manufacturing, which employed nearly 30 percent of the workforce, accounted for 65 percent of the OSD.

Although the distribution of cases by employment background might vary from region to region; 63 percent of the worker-patients attending the Yale OSD clinic were employed in manufacturing industries. All but one of our field studies also involved manufacturing processes. By comparison, it was not surprising to find no agricultural workers in our clinic population given the small numbers of agricultural workers in Connecticut.

At this phase in the development of the OSD clinic, many questions have been raised of theoretical and practical significance. For example, what of the 'uncertain primary diagnosis?' This is encountered in a worker presenting with allergic contact dermatitis (documented by allergen testing) concomittant with psoriasis. Did the contact dermatitis unmask a tendency for psoriasis? What of the legal implications for the worker with a potentially lifelong psoriatic state? Similar problems arise regarding disorders where the etiology is unknown; the worker in a metal 'pickling' operation who develops scleroderma; the dental hygienist with systemic mercury poisoning who develops lupus erythematosis. These questions are potentially quite frustrating to the practitioner but they provide a critical interface for clinical and basic research scientists to explore cause and effect.

Yet other areas of inquiry focus on the individual who sustains an occupationally-induced allergy to a common agent in the ambient environment, such as nickel, chrome or epoxy chemicals. What of the prolonged recovery period for such an individual, relating to exposure outside of the occupational setting? How should this worker be rehabilitated? Another problem is that associated with current expression of an allergy sustained during a previous job. Can or should these workers eventually be pre-screened by an objective test for allergic sensitivity? It is apparent that the social and legal ramifications of many such clinical judgments may have an enormous impact on the worker's everyday life. There are few guidelines presently available to address these difficult issues.

We are hopeful that the OSD clinic will provide continuing opportunities to learn more about the effects of the occupational environment upon the expression of human cutaneous disease. Through this approach, it is anticipated that newer methods will emerge to better control and prevent these disablings conditions.

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The Medical Surveillance of Persons Exposed to Asbestos

HILTON C. LEWINSOHN, M.B.

ABSTRACT — This paper will briefly review the techniques which allow persons exposed to asbestos to be kept under surveillance.

The pre-placement evaluation procedure and its usefulness is discussed.

The periodic medical evaluation is described and an outline of the essential requirements is given. The role of radiological surveillance is briefly discussed.

The point is made that both the exposed persons and their management place reliance upon the physician to inform them of adverse findings so that the problem of alternative employment and future protection can be dealt with in a sound and equitable manner.

Medical surveillance should continue for the lifetime of the individual once exposure has been documented and post-retirement or post severance examinations should be provided whenever practicable.

Asbestos-related diseases can be preveneted by good industrial hygiene practices and engineering controls. The physician is able to intervene at the interface between worker and work and hopefully alter the final outcome to the good.

Introduction

Exposure to asbestos in various industries and occupations has been associated with three major lesions involving the intrathoracic organs. Asbestosis, first recognized at the beginning of this century, is a form of interstitial pulmonary fibrosis which has been shown to be related to the dust levels in the workplace and to be dependent upon the duration of such exposure. Lung cancer in heavily exposed workers in industries such as insulation, construction, ship-building and asbestos textiles manufacture, has been adequately documented and related to asbestos exposure. Asbestos exposed persons who smoke cigarettes appear to have a 90 times greater chance of dying from lung cancer than non-smoking non-asbestos exposed persons.[1] The third condition to be associated with exposure to asbestos is diffuse malignant meso-

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thelioma of the pleura (or peritoneum).[2] Unlike asbestosis and lung cancer, this rare tumor has been more difficult to characterize in terms of dose-response and pathologic features.

Less clear-cut associations have been described by some observers between asbestos exposure and cancers involving the gastrointestinal tract[3,4] and cancers in other organs such as the larynx[5] or renal organs.[6] Cancer of the ovary in women has been ascribed to asbestos exposure.[7] It is suggested that the cases described were actually of peritoneal origin and due to malignant mesothelioma of the peritoneum. It may be difficult to distinguish ovarian carcinoma from peritoneal mesothelioma.

Because of its increasing and widespread use in the U.S.A. in many industries during the past 50 years, lasting up until very recent times, it has been estimated that millions of people have been exposed in various ways to various varieties of asbestos.[9]

The asbestos-related diseases are not readily amenable to therapy. Asbestosis is slowly progressive, the outlook for the person with lung cancer is very poor and diffuse malignant mesothelioma of the pleura or peritoneum is invariably fatal within a short period of time after diagnosis. The physician practicing in the industrial environment is faced with a dilemma of severe proportions when attempting to intervene or prevent undue suffering on the part of exposed individuals, but with diligence and perserverence can definitely exert a meaningful influence.

Physicians whose practice includes providing a service to industry must be actively involved with workers and management, must be completely familiar with the properties of asbestos in use, must understand the manufacturing processes in the plant and have a clear concept of the plant design and layout. The doctor who has taken the trouble to become educated in this way will be better equipped to manage the health of people at work. In addition to gaining practical experience of the workplace, the physician also needs to gain a thorough working knowledge of the etiology, pathogenesis, epidemiology and therapy of work-related diseases. The physician should acquire a working knowledge and appreciation of the theory and practice of industrial hygiene, including an understanding of sampling and monitoring procedures.

The role of the physician is to insure that industry employs people who are suited to the tasks required of them and that they do not suffer injury or illness as a result of the work they are called upon to do.

Pre-Placement Medical Evaluation of Persons Exposed to Asbestos

The pre-placement medical evaluation is designed to determine the suitability of the employee for the job and the suitability of the particular job for the individual concerned. When asbestos exposure is likely the workplace conditions must be known before decisions can be made about a prospective employee with medical contraindications to such employment. As the result of experience already gained in the development of medical surveillance programs, the suitability of prospective employees for the specific tasks in question may be estimated and based upon defined selection criteria.[10] Applicants should be appropriately counseled regarding their fitness or otherwise for employment in an asbestos-exposed occupation and if any restrictions need to be imposed on medical grounds they should be indicated to the applicant and the employer prior to placement in the job. There are certain broadly defined conditions which should contraindicate employment: a history of previous work in another industry with a recognized dust hazard such as coal mining or stone quarrying, an existing pulmonary disability due to pneumoconiosis or from any other source, the presence of obstructive airways disease with or without emphysema, asthma, and organic heart disease. Other contraindications to employment in a dusty job which have been recommended are: (1) Nasal obstruction or deformity of such a degree as to make the wearing of a dust mask difficult or impossible, (2) gross physical deformity of the chest such as scoliosis or kyphosis, or as a result of thoracic surgery, (3) chronic bronchitis, bronchiectasis or emphysema, (4) gross hypertension with cardiac impairment and (5) the presence of rheumatoid arthritis.

Apart from identifying people who should not be employed in dusty work, the pre-placement evaluation serves the purpose of establishing base-line data for longitudinal prospective follow-up. The data which should be incorporated in the medical records for this purpose are summarized in Tables 1 and 2 and conform with the requirements of the Occupational Health & Safety Administration's "Asbestos Standard."

Table 1

Identification characteristics required to establish a data base for long term follow-up of asbestos workers.

A. 1. Name (include maiden name for married women)
   2. Identification number (social security number, etc.)
   3. Date of Birth
   4. Place of Birth
   5. Address

B. 1. Name of spouse
   2. Ientification number of spouse (social security number, etc.)
   3. Spouse's date of birth

C. 1. Names, dates of birth, addresses and identification number of children

D. 1. Employee's company I.D. number (clock no., etc.)*
   2. Employee's occupation (job description, including raw materials handled)
   3. Latest dust levels in job and department

*The employee I.D. number should never change and should be reallocated to the same employee upon rehiring after termination of employment.

The physician should take the opportunity which the pre-placement evaluation affords to counsel and advise the job applicant regarding the known facts about asbestos-related diseases. It is essential to emphasize the special risks the person will run if he or she smokes cigarettes and every effort should be made to discourage the habit.

Table 2
Minimum requirements to be recorded to establish a data base for long term follow-up of asbestos workers.

Complete, detailed, occupational history since leaving school
Family history
Smoking history
Social history (drugs, alcohol, etc.)
Previous illnesses of note, especially respiratory ailments
Detailed respiratory symptoms history (MRC or ATS Respiratory Symptoms Questionnaire)
Vital and physical signs
Special investigations: 17″ x 14″ Postero-anter chest roentgenogram*
    Measurement of lung function (ventilatory capacity, lung volumes, gas transfer, etc.)
    Sputum cytology (value not proven in screening)
    Measurement of angle between nail and cuticle to document appearance of clubbing of fingers.

*Oblique views, and occassionally lateral views, may be required to clarify pleural abnormalities.

It has previously been pointed out that the pre-placement medical evaluation "is an essential tool for use in the medical supervision of asbestos workers because it establishes the principles upon which future management will be based. It gives the prospective applicant an insight into the seriousness of the problem and enables the physician to recommend suitability, limited suitability or total unsuitability of the individual for the job. The opportunity which the pre-placement physical examination provides for the medical staff to counsel the individual and establish rapport is unique and should not be missed. This period in the career of the job applicant provides the best opportunity for the recording of identification details and verifying them, in order to establish the data base for long-term follow-up."[12]

Periodic Medical Evaluation

Persons exposed to asbestos in their occupation should be kept under medical surveillance. The object of periodic examinations is not only to determine changes in the physical condition, physiological status or radiological appearances of the exposed person but also to re-evaluate the workplace conditions and the individual's suitability to continue doing the same job. Medical findings can be recorded on an ongoing basis to allow comparison from one examination to the next. The periodicity of the evaluation process will depend upon demonstrated need and available man-power as well as regulatory requirements. The Occupational Safety and Health Administration promulgated the Asbestos Standard (CFR 1910.1001) in July 1972.[11] Section 1001(j)(3) requires that every employer shall provide, or make available, at least annually, comprehensive medical examinations to each employee engaged in an occupation exposed to airborne concentrations of asbestos fibers. The minimum requirement is for "a chest roentgenogram (posterior-anterior 14 x 17 inches), a history to elicit symptomatology of respiratory disease, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second ($FEV_{1.0}$)."

Periodic medical evaluation is designed to detect the biological effects of inhalation of asbestos as early as possible and hopefully at a stage when removal from further occupational exposure to asbestos may arrest or significantly delay the progress of asbestosis or the occurrence of other asbestos-related conditions. Epidemiologic evidence of the value of this procedure is not yet available and the changing environmental conditions in the workplace throughout the asbestos industry over the past fifty years only serves to confuse the issue when attempting to assess the value of early diagnosis.[13]

The periodic evaluation should include a physical examination even though the OSHA standard does not specify it. The examiner should concentrate on the physical signs associated with pulmonary fibrosis such as bilateral end-inspiratory fine crackles at the lung bases, finger-clubbing and breathlessness. In the case of long-service employees, especially heavy-smokers, the possibility of lung cancer should always be borne in mind. Transient pleural effusions occur in asbestos workers.

The aim of radiologic surveillance of asbestos workers is to compare serial roentgenograms taken throughout the exposure period at regular intervals in order to detect the earliest changes which would result in deciding whether the individual should be advised to consider alternative employment. Radiographic evidence of predominantly basal diffuse interstitial fibrosis is the characteristic change seen. The Medical Advisory Panel (MAP) of the Asbestos International Association has prepared a document entitled "Criteria for the Diagnosis of Asbestosis and Considerations in the Attribution of Lung Cancer and Mesothelioma to Asbestos Exposure" which will become available in early 1982.[14] The MAP recommend that to ensure comparability of radiographs they must be of good technical quality, of full size (14″ x 17″) and both costophrenic angles should be visible. Ideally inspiration should be such as to have brought the diaphragm below the fifth rib anteriorly and the tenth rib posteriorly. The recording of changes on the radiograph should be in accordance with the ILO International Classification of Radiographs of Pneumoconioses (1980).[15]

Pleural lesions are often the first radiological indicator of exposure to asbestos. These changes may consist of diffuse or localized pleural thickening or circumscribed pleural plaques, with or without calcification, may occur and need not be associated with obvious parenchymal fibrosis. The pleural abnormalities can be sufficiently extensive to obscure the lung fields and may, in rare cases, lead to impairment of lung function.

It has been shown that whereas parenchymal radiographic patterns change in relationship to dust concentrations experienced over the course of time, pleural changes are related to length of exposure, irrespective of dose. Pleural changes probably represent an important radiologic sign which is part of a constellation of changes observed in low-grade exposure groups where parenchymal effects are less likely to be seen.[16]

Weill[17] has attempted to evaluate the basis for clinical decision making by the physician evaluating patients who have had occupational exposure to asbestos. In an asbestos worker, definite radiographic evidence of diffuse pulmonary fibrosis, even if it is minimal in profusion or extent, should be an indication to advise the individual that further exposure to asbestos dust may increase the probability that the condition will progress with time. The greater the past cumulative dust exposure, the higher the probability of progressive pulmonary fibrosis according to Weill. Cessation of exposure is only likely to minimize the degree of progression of fibrosis and, because the excess risk for development of respiratory cancer has been shown to be dose-related, this should also be minimized by not adding further to the dust dose of individuals with radiographic signs of asbestosis.

Pleural thickening and pleural plaques are apparently related to length of exposure and time since first exposure but not to dose, and are not therefore likely to be influenced by modest additional exposure. Weill believes that when only pleural stigmata of asbestos exposure are present, continued medical surveillance and periodic evaluation is indicated but job transfer is not necessary. The patient should be told about the pleural lesions which have been noted so that the subsequent election to change to a job without further asbestos exposure can be considered if so desired.

In the past 5 or 6 years the use of computed tomography (CT) in the diagnosis of asbestos effects on lungs and pleura has shown that both types of lesion are seen more obviously than on conventional radiographs. This diagnostic technique is not yet a practical tool to add to the medical surveillance armamentarium but it is useful in early diagnosis. Early pleural plaques can be reliably diagnosed and are not confused with "companion" shadows adjacent to the ribs as in chest radiographs. Fine interstitial parenchymal disease can also be detected on CT when not visible on the chest radiograph according to Kreel.[18] By the time the changes of asbestosis have become visible on the chest radiograph, the changes on CT scan appear gross. The same author states that in one third of cases with unilateral pleural effusion there will be evidence on CT of pleural plaques particularly in the contralateral hemithorax. CT scans may thus be very useful in the diagnosis of mesothelioma and Kreel postulates that the finding of pleural effusion, rib destruction, pleural plaques or calcifications, intrapulmonary nodules and thickening of pleura, pleural fissures and paramediastinal structures especially at the bases and posteriorly should suggest this lesion. He also feels that the delineation of tumor nodules within effusions allows this tumor to be analyzed sequentially and better evaluated following treatment thus leading to improved therapeutic modalities.

In the periodic evaluation of asbestos exposed persons it is recommended that tests of lung function be used to determine the earliest defects possibly resulting from exposure. The measurement of the timed vital capacity components, namely, forced vital capacity (FVC), forced expiratory volume in the first second of expiration ($FEV_{1.0}$) and the ratio of these ($FEV_{1.0}/FVC$), should be routinely recorded. A restrictive pattern is consistent with the development of pulmonary fibrosis (asbestosis) but other causes should first be ruled out. A predominantly obstructive pattern is uncommon in the absence of a smoking history. A comparison of periodic lung function test results over a number of years is of much greater value in the follow-up of an individual than a single observation where comparisons can only be made to the "predicted normal value." Where facilities exist for more complete studies they should at least include measurement of lung volumes and the single-breath carbon monoxide diffusing capacity.

No mention has been made thus far of the role of sputum examination for exfoliative cytology. A proposal has been made in the United States that this should be performed routinely on persons with 10 or more years of exposure to airborne concentrations of asbestos fibers or who are 45 years of age or older.[19] A large-scale multi-institutional program designed to evaluate periodic screening for early stage bronchogenic carcinoma among asymptomatic asbestos workers is currently in progress.[20] Interim results do not indicate that sputum cytology is of overall benefit to screened individuals and "early data from studies of smoking men at high risk of lung cancer indicate that only one fourth of asymptomatic lung cancers are detected by sputum cytology and the remainder are detected by chest radiography."[21]

The value of the periodic medical evaluation depends upon the manner and thoroughness with which it is performed. The standardization of the protocol will enchance its early diagnostic capabilities. The strictest attention must be paid to the detail of radiologic and physiologic methods employed. It should always be borne in mind that the employee's attitude to periodic evaluation differs from that to the pre-placement evaluation and whereas the concerns at the time of the latter were job suitability, the concerns in the employee's mind at the time of the former are job retention.

Life-Long Surveillance

Persons who are exposed to asbestos should not only be kept under surveillance while exposed, but because of the lapsed interval between first exposure and the detection of biological effects, observation should continue at periodic intervals for the rest of their lives.

Retirees who receive pensions from employers should be easier to follow-up than persons who sever employment prior to reaching retirement age. Employers should endeavor to impress upon such employees the value of remaining under medical surveillance. The follow-up of retirees could be undertaken by means of a health questionnaire sent by mail and incorporating a reminder to each one to see a physician and have a chest radiograph taken. In some cases this could lead to the early detection of lung cancer and therapy which could prolong life and alleviate suffering.

Comments

The prevention of asbestos-related diseases depends upon engineering technology and dust control. The role of the physician is the prevention of ill-suited job-placement and intervention at the interface between worker and work. The technique of medical surveillance is merely one cog in the wheel which comprises the total effort required to safeguard employee health. The active collaboration of employer and employee in the surveillance program allows it to achieve significant results of benefit to both.

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MOSES BEN MAIMON (MAIMONIDES) [1135-1204]

Excessive eating is like a deadly poison to the body of any man and it is the principle [cause] of all illnesses. Most diseases that man is afflicted with are due to bad foods or because he fills his abdomen and eats excessively, even of good [wholesome] foods.

Mishneh Torah, "Hilchoth De'oth," Ch. IV, No. 15 (tr. by Fred Rosner in *Annals of Internal Medicine* 62:372, 1965)

Thoracic CT Scanning in Asbestos Workers with Lung Cancer

JOHN R. BALMES, M.D., MARK R. CULLEN, M.D. and H. DIRK SOSTMAN, M.D.

Introduction

Epidemiologic studies have established the association between exposure to asbestos dust and increased risk of developing brochogenic carcinoma.[1-3] The risk is greater if there is also a history of heavy cigarette smoking.[2] Pleural hyaline plaques are the most frequent roentgenographic manifestation of asbestos dust exposure. The prevalence of pleural plaques visible as multiple peripheral plaquelike and nodular densities on conventional chest radiographs has been shown to increase in relation to intensity of exposure, duration of time after initial exposure and patient age.[4-6] An asbestos-exposed individual with bronchogenic carcinoma and multiple peripheral nodular densities on chest film is a problem in tumor staging. The differential diagnosis of intrapulmonary metastasis versus pleural plaque formation becomes of considerable importance to appropriate patient management and may be difficult using conventional radiography and even tomography. Thoracic computerized tomography (CT) can distinguish parenchymal from pleural lesions[7,8] and we have found it useful in this clinical setting in the course of screening a number of asbestos-exposed workers at the Occupational Lung Disease Clinic at Yale-New Haven Hospital. We report here two illustrative cases.

Case Reports

Case #1 A.C.

Mr. A.C., a 60 year old male steelworker, was in excellent health until June, 1979, when a routine chest radiograph showed a left hilar mass, and numerous peripheral densities bilaterally (Figure 1). The patient was hospitalized in July, 1979 and tissue obtained from the left mainstem bronchus transbronchial biopsy revealed poorly differentiated squamous carcinoma. The patient had smoked one pack of cigarettes per day for 40 years, and had worked 27 years at a large annealing furnace. He had been exposed to asbestos from the wear and maintainance of insulated steel rollers; the furnace was also asbestos-lined. Other exposures included acid and alkali fumes and pyrolysis products of mineral oils lubricating steel in the furnace.

Because of the exposure history, the initial assumption that peripheral nodules on chest film represented parenchymal metastases was challenged. Whole lung tomography was performed and appeared to confirm the presence of parenchymal nodules (Figure 2). Prior to therapy, however, CT scanning of the chest was performed, establishing the pleural location of the "nodules" (Figure 3). Surgical therapy was then offered to the patient since no metastases were present. However, the patient refused operation. Follow-up examinations for 20 months have demonstrated no evidence of metastatic disease.

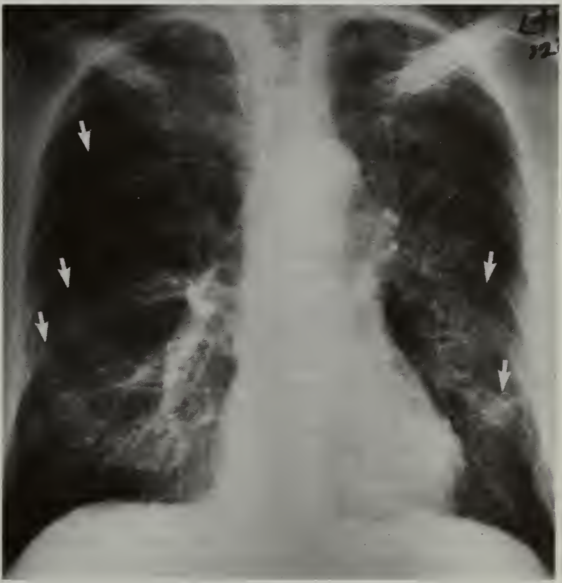

Figure 1

Case 1. Chest film shows left hilar mass, increased lung markings bilaterally and several obvious pleural plaques. In addition, there are several densities which appear parenchymal (arrows).

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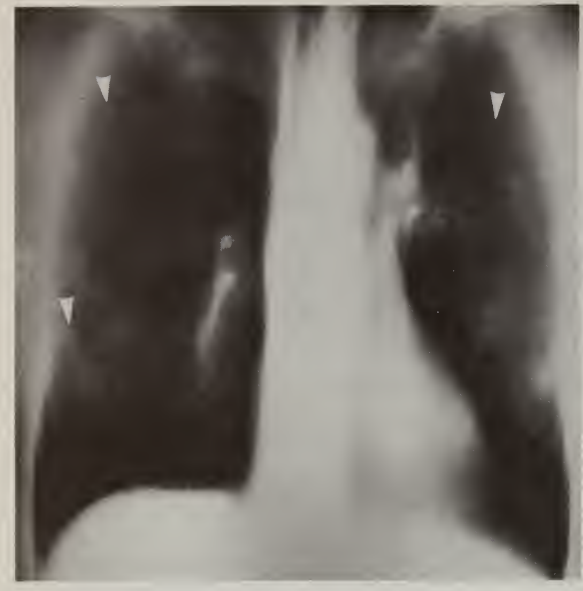

Figure 2
Case 1. Lung tomograms failed to exclude parenchymal lesions in this patient. Possible parenchymal nodules shown on this tomographic section are indicated by arrowheads.

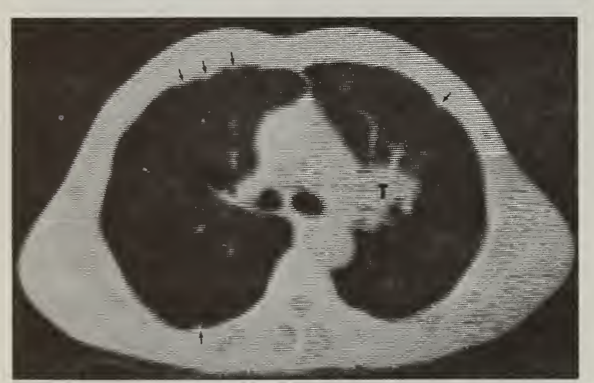

Figure 3
Case 1. CT scans revealed numerous pleural plaques (arrows) but no parenchymal nodules. The left hilar tumor mass (T) is seen on this section.

Case #2 J.G.

Mr. J.G., a 77 year old white male, presented in February, 1980 with a 1-2 month history of productive cough, anorexia and a 20 lb. weight loss. Chest radiograph demonstrated a large, right hilar mass with distal atelectasis and multiple small bilateral peripheral nodules (Figure 4). Many of these nodular densities appeared to be parenchymal in origin, but several appeared to be pleural-based. Review of environmental exposures revealed heavy smoking in the past, although the patient had stopped smoking 15 years prior to admission, and a 6 year term of employment (1941-1946) as a sheetmetal worker in a shipyard. Fiberoptic bronchoscopy and transbronchial biopsy documented squamous carcinoma of the right upper lobe bronchus. Biopsy of a palpable right supraclavicular node was negative for tumor. Bone, liver-spleen, and brain scans were negative. Whole lung tomograms (Figure 5) were done but failed to provide definite evidence that the nodular lesions were not pleural in origin. Because the roentgenographic presentation seemed atypical for squamous cell carcinoma and because of the history of asbestos exposure, CT scan of the chest was obtained as part of the staging evaluation. The CT scan, while showing many pleural-based lesions clearly established the parenchymal location of several of the nodules (Figure 6) and the patient was referred for non-surgical therapy. He expired two months later, his course consistent with metastatic carcinoma.

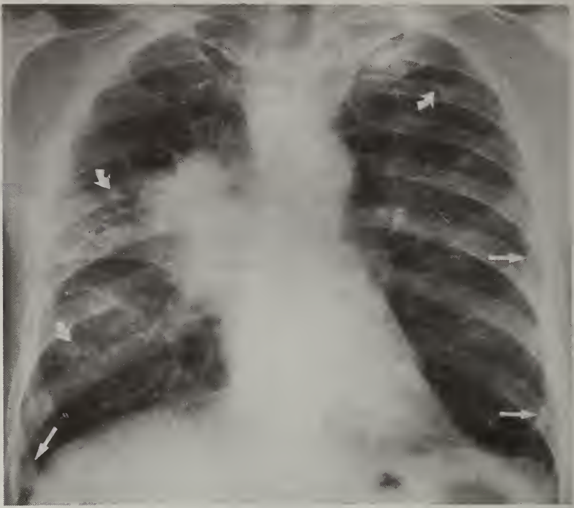

Figure 4
Case. 2. The chest film demonstrates a bulky right hilar carcinoma. Although some chest lesions seemed to be parenchymal (curved arrows), many appeared pleural in origin (straight arrows).

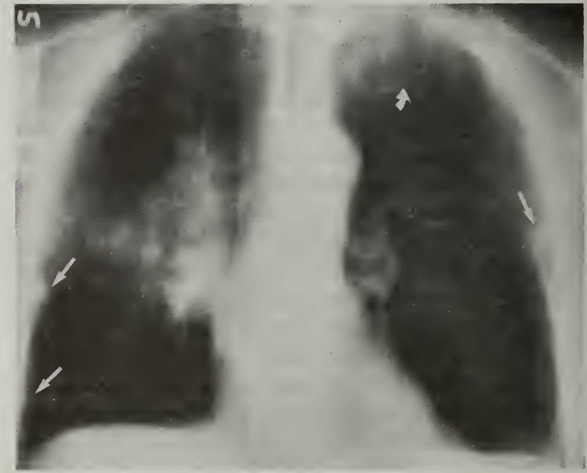

Figure 5
Case. 2. Lung tomogram showing three pleural-based lesions (straight arrows) and one nodule that is shown to be probably, but not definitely parenchymal in location.

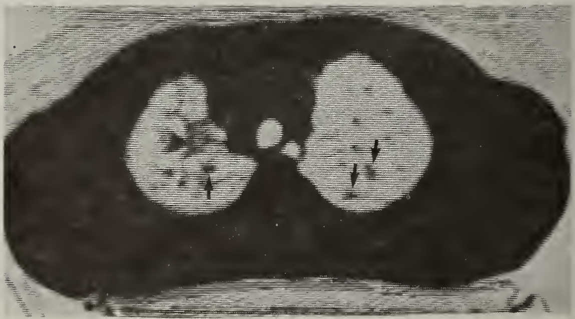

Figure 6
Case 2. CT scan conslusively demonstrated parenchymal lesions (arrows) in this patient.

Discussion

Plain radiography of the chest is a relatively insensitive and unreliable method of recognizing the pleural changes associated with asbestos dust exposure.[9-11] Conventional tomography is not always of greater assistance in distinguishing pleural plaques since the composite shadows of adjacent ribs tend to blur out the ill-defined shadow of the plaques.[12] Computerized tomography has been reported to be both more sensitive and more accurate than standard techniques for the diagnosis of pleural plaques.[13]

It has been shown that pleural thickening due to asbestos dust exposure may simulate multiple pulmonary nodules on plain chest films.[14] Differentiation between multiple nodular pleural plaques and multiple parenchymal metastatic nodules can be made with CT, which confirms the pleural location of the plaques. Discrete, localized, non-calcified pleural thickening has been described with metastatic carcinoma as well as with asbestosis.[12] However, it is rare for metastatic lung carcinoma to involve both pleurae simultaneously. Asbestos is the most common cause of bilateral pleural thickening; indeed, the presence of such bilateral thickening has been suggested for use as an epidemiologic marker of asbestos dust exposure.[15] Computerized tomography can be helpful in demonstrating bilateral pleural changes when chest films may suggest only a unilateral process. It may also show calcification within pleural lesions which was not suspected with conventional radiographic techniques, helping to establish the benign nature of the pleural process.[13]

Robbins, et al., have observed that one of the most valuable aspects of thoracic CT is the anatomic information it can provide with regard to patients who are being considered for surgical intervention.[8] These authors found that the information gained from CT frequently affected clinical decision making regarding patients in whom the distinction between parenchymal and pleural lesions had not been possible using other techniques. In their series, thoracotomy was avoided in several patients with asbestos exposure where suspected pulmonary lesions were shown to be of pleural origin instead.

The only potentially curative treatment of bronchogenic carcinoma remains complete surgical resection when the tumor is locally confined. At Yale, patients with lung carcinoma of other than small cell histology are considered to be resectable until proven otherwise. While we do not wish to inconvenience our patients with unnecessary or expensive staging procedures, we also do not want to subject patients needlessly to the risks of thoracotomy. The ability to distinguish bilateral benign pleural disease from diffuse or contralateral spread of carcinoma can have profound implications with regard to the preoperative assessment of resectability. We have found that computerized tomography can provide this capability, and that it is particularly valuable in asbestos-exposed patients, who have high incidence of both lung carcinoma and benign pleural disease.

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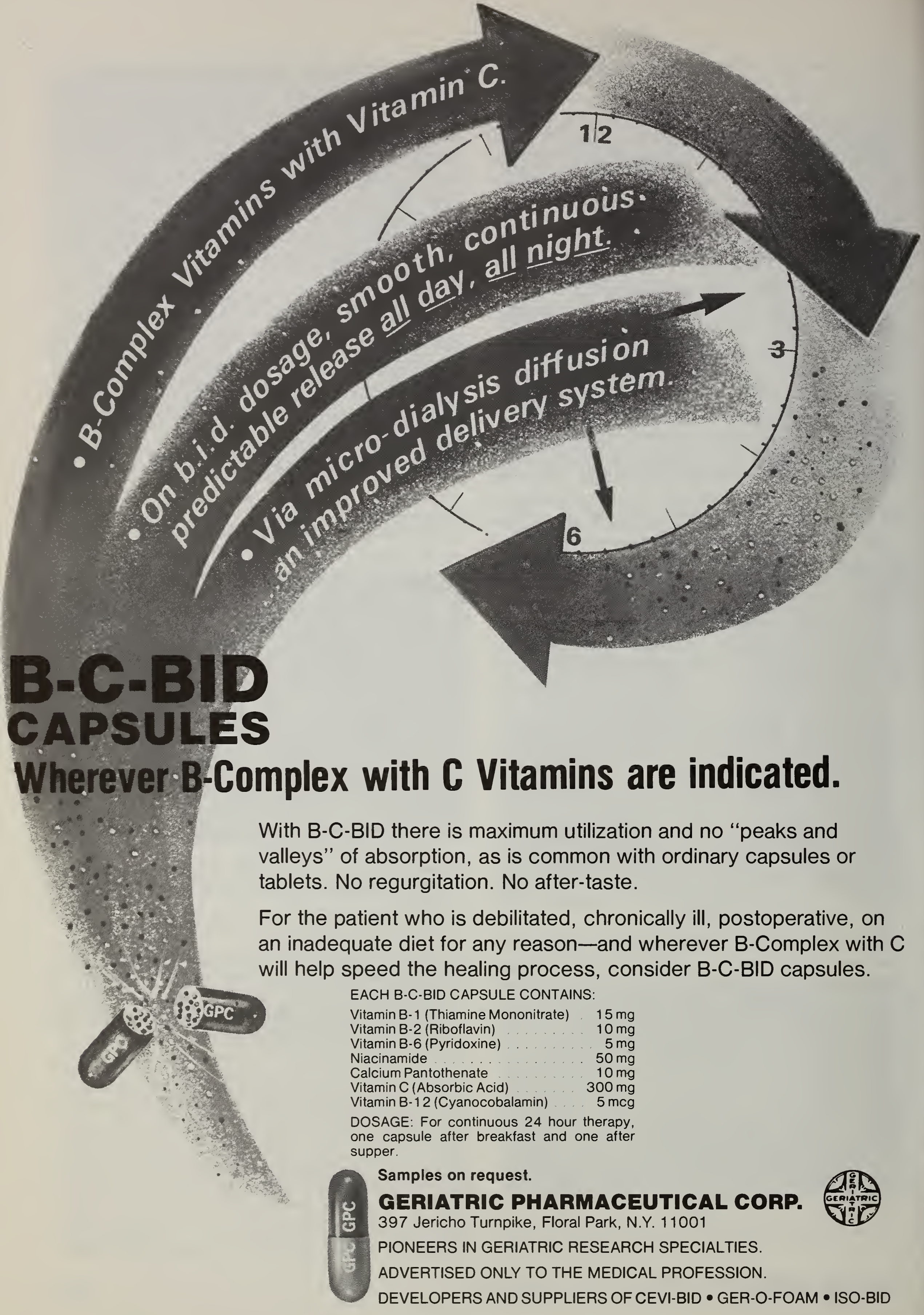
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Important Advances in Clinical Medicine

Epitomes of Progress—Pathology

Laboratory Tests for Detecting Circulating Immune Complexes

Immune complexes play a role in the pathogenesis of a variety of diseases, particularly those with signs or symptoms of glomerulonephritis, vasculitis, synovitis, serositis, Raynaud's phenomenon, purpura and even urticaria. The primary approaches used for the diagnosis of immune complex disease in humans have been the identification of immune complexes in tissue specimens of skin, kidney and other organs and serologic analysis of various biological fluids.

Exogenous and endogenous antigens can trigger abnormal immune responses with resulting immune complex disease. Because of the enormous diversity of antigens involved in circulating immune complexes, antigen-specific assays for immune complexes have not found widespread clinical use. However, the antigen-nonspecific techniques have attracted a growing interest. Raji cell assay and C1q-binding assay, both of which involve detection of complement-fixing immune complexes, have been most useful in evaluating immune complex disease.

The Raji cell is a cultured human lymphoblastoid cell line derived from a Burkitt's lymphoma. Raji cell assay is based on the observation that complement-binding immune complexes will bind to cell surface receptor sites for C3b, C3d and C1q. Raji cells are normally devoid of membrane-bound immunoglobulin and the technique quantitates immune complexes bound to the cell by measuring the uptake of radioactive antibody to immunoglobulin G in the complexes. The assay is carried out at 37°C to minimize false-positive results that may be possible with rare, warm-acting types of antilymphocytic antibodies.

The sera to be tested in the Raji cell assay should be fresh or stored at −70°C and not subjected to repeated freezing and thawing. The sensitivity of the assay is about 6 μg of aggregated human globulin (AHG) per ml of serum. Studies have shown that in only 3 percent of normal subjects do values of AHG exceed 12 μg per ml of serum. In patients with autoimmune, infectious and malignant diseases, 42 percent to 97 percent were found to have positive findings on testing for immune complexes. High concentrations of Raji cell-bound IgG in the form of immune complexes were found in patients with autoimmune diseases with a mean of 100 to 300 μg of AHG per ml. Intermediate concentrations of immune complexes were found in patients with infective bacterial endocarditis, viral diseases and malignant tumors, with a mean of 50 to 100 μg of AHG equivalent per ml. In follow-up studies, a good correlation was observed between concentrations of immune complexes and disease activity in patients with autoimmune disorders, infectious diseases and malignancy.

The major disadvantages of the Raji cell technique are the possibility of false-positive results due to the presence of warm, reactive antilymphocytic type of IgG antibodies and interaction of antibodies in serum with cytoplasmic or nuclear antigen liberated from dead cells. The warm reactive IgG antilymphocytic antibodies are often present in extremely small amount, are of low affinity and react poorly with Raji cells under the conditions of the assay. In addition, the assay is carried out at 37°C to minimize the effects of the antilymphocyte antibodies.

The C1q-binding assay measures the ability of circulating immune complexes to bind purified, radiolabeled C1q, the first component of complement. If such immune complexes are present, they will bind the C1q, which will then be precipitated by polyethylene glycol (PEG). Free C1q is not precipitable by PEG. The percentage of the total added C1q that is precipitated is calculated and expressed as "percent bound." Normal ranges are determined in each laboratory and typical results are as follows: 0 percent to 13 percent bound = normal, 13 percent to 16 percent bound = borderline and greater than 16 percent = abnormal.

Certain cryoglobulins, cold agglutinins and rheumatoid factors may be responsible for positive results even though they may not be an integral component of a serum immune complex. C1q also binds to heparin, protamine, lipopolysaccharide, C-reactive protein, DNA and phosphoryl choline.

The Raji cell and the C1q-binding assays measure different properties of immune complexes: the former measures the presence of C3 already bound and so activated that the entire complex can bind to the Raji cell C3 receptor; the latter measures the presence of free binding sites available to bind C1q. Frequently results of the two assays will be discordant, indicating the value of doing both tests in determining the presence of circulating immune complexes.

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Herpes Simplex Virus Infections

Herpes simplex infections are caused by a double-stranded DNA virus that measures 100 to 140 nm in diameter. Two antigenic types of herpes simplex virus (HSV) can be distinguished. HSV type 1 causes mainly lesions of the oral mucous membranes and skin lesions above the waist. HSV type 2 affects primarily the genital tract and is usually isolated from lesions below the waist.

Humans are the only known reservoir of HSV and this virus can be isolated from 2 percent to 5 percent of healthy persons. The virus is usually transmitted by direct contact—that is, hand to mouth, kissing, sexual contact and so forth—and has an incubation period that lasts from 3 to 12 days.

Primary infections are common between the first and fifth years of life and by the age of 40 70 percent to 90 percent of persons carry HSV antibodies. However, clinical disease will develop in only 1 percent of susceptible hosts, while the other 99 percent of the infections are asymptomatic. Recurrent infections are common, occurring in 15 percent to 40 percent of patients, and are usually triggered by excitants such as fever, allergy, menstruation and mechanical or psychological trauma. Herpes encephalitis is a serious complication produced by this virus and is the most common cause of fatal sporadic encephalitis in the United States.

Neonatal herpes may be acquired during the intrauterine or perinatal period and affects approximately one infant in 8,000 deliveries. The greatest risk occurs perinatally as the result of exposure to an infected birth canal. Pregnant women with herpes genitalis should be carefully monitored and delivered by cesarean section if there is any possibility that the virus may infect the baby during the vaginal delivery.

Both type 1 and type 2 HSV have been incriminated as possible causal agents in human cancer. So far, however, no definitive evidence is available but a correlation does appear between squamous cell carcinoma of the cervix and infection with HSV type 2.

Numerous drugs including vidarabine (adenine arabinoside), idoxuridine, ribavirin, acyclovir and interferon have been used for the treatment of HSV infections. Although some positive results have been obtained there is a great need for more investigation in the area of antiviral chemotherapy for HSV.

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Current Problems With Parasites

In recent years refugees and immigrants have brought many parasitic infections into the Western United States. People arrive from Asia with liver fluke infection, paragonimiasis and hookworm, as well as falciparum malaria. Drug-resistant strains of malaria occur in Asia and in other parts of the world and are brought into the United States by refugees and by US citizens traveling abroad.

One may find giardiasis, intestinal amebiasis or amebic liver abscess in persons without a history of foreign travel, while other intestinal infections such as ascariasis and trichuriasis are more commonly seen in recent immigrants. Although light infections with *Trichuris* and hookworm are often of little clinical importance, infection with *Taenia solium* is of great concern because it exposes patients and people around them to cysticercosis. In recent years central nervous system cysticercosis has been seen in patients who have acquired the infections locally.

The prevalence of giardiasis and amebiasis is much higher in homosexuals than in heterosexuals. This has now been well documented. Because of frequent reinfection, homosexuals more commonly receive antiparasitic drug therapy. It is important to realize that some of these drugs may be mutagenic and indiscriminate use may pose a real hazard to patients.

Recent reports of the occurrence of *Pneumocystis carinii* pneumonia in homosexuals are also of concern. Cytomegalovirus (CMV) was present in several of these individuals and may have resulted in some degree of impaired immunity. Fatal disseminated parasitic disease often develops in immunosuppressed patients. Most common in these individuals are toxoplasmosis, pneumocystosis and strongyloidiasis. However, amebiasis and other (inapparent) low-grade infections may also disseminate in patients with an impaired immune system, whether drug-induced, a result of poor nutrition, or concomitant infection.

Careful examination for intestinal parasites *before* administration of immunosuppressive therapy is essential. Not all clinical laboratories do this adequately. Stool specimens fixed in polyvinyl alcohol (PVA) immediately after passage can be sent to reference laboratories recommended by local public health authorities. The essential permanent stain can be prepared from material fixed in PVA by patients at home or by a ward nurse. State public health laboratories and the Centers for Disease Control, Atlanta, will advise on the availability of serologic tests for parasitic diseases. Certain commercially available kits for serologic testing may yield results of dubious value. Many are now being evaluated for reliability. When in doubt, a physician should check the accuracy of specific tests with the above agencies.

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Therapeutic Drug Monitoring

The recognized medical usefulness of the measurement of drug levels in patients produced a considerably increased demand for such monitoring during the 1970's. This specialty area continues to grow rapidly. Clinicians in both small and large medical centers have come to expect and to depend on laboratory determinations to monitor the course of acute or chronic drug therapy.

Drugs commonly monitored include those used in cardiology (digoxin, quinidine, procainamide hydrochloride and lidocaine hydrochloride), neurology (phenobarbital, phenytoin, primidone, carbamazepine and valproic acid), psychiatry (amitriptyline hydrochloride, nortriptyline hydrochloride and lithium), pulmonary medicine (theophylline), oncology (methotrexate and cisplatin) and infectious diseases (gentamicin and tobramycin). The purpose of a drug assay may be to assure patient compliance with the therapeutic regimen, to achieve a pharmacologically effective drug concentration in serum or to prevent potentially toxic drug accumulation in the body.

For routine therapeutic monitoring purposes, a drug assay need not be highly specific for the unchanged drug in serum as long as the result is quantitatively accurate and can be correlated with clinical response. For instance, there are some relatively unsophisticated laboratory procedures still in use for drugs such as phenobarbital, phenytoin, quinidine and theophylline that involve spectrophotometry.

More recently, however, a subspecialty of pharmacology known as pharmacokinetics has been applied to the interpretation of patients' drug levels. The rate of elimination of a drug, its volume of distribution and suggested changes in dosage or dosing interval can be accurately predicted using pharmacokinetic calculations. For these applications, the laboratory assay should be sensitive to small concentrations of the drug, highly quantitative and capable of measuring individually the unchanged drug and its active metabolites. Simple to perform but very specific immunoassays are now commercially available for many of the commonly monitored drugs. The most successful therapeutic drug monitoring programs in hospital settings involve a cooperative effort between clinicians, laboratory personnel and clinical pharmacists.

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Immunohistochemistry in Modern Pathology

Immunohistochemistry has revolutionized pathology by allowing ready recognition of tissue antigens not identifiable by either routine light or electron microscopy. Immunohistochemistry is a general term describing the techniques used to stain tissue antigens through the use of antibodies. Immunofluorescence and immunoperoxidase are the two main forms of immunohistochemistry. As the first step, each method requires an antibody, the so-called primary antibody, that is directed against the antigen whose presence or absence in a given tissue one wishes to determine. The primary antibody must be labeled with a tag such as fluorescein or horseradish peroxidase. The fluorescein tag is seen with the use of a fluorescence microscope and positive staining appears as a bright light against a dark background. The horseradish peroxidase tag acts on a soluble chromogenic substrate to form an insoluble colored precipitate that is examined with an ordinary light microscope. Although immunofluorescence is advantageous for certain purposes, such as the staining of antigens seen solely in cell membranes, it requires frozen tissue and a fluorescence microscope and does not permit recognition of much histologic detail in the nonfluorescing background area of the tissue. The immunoperoxidase technique, however, can be done on routinely processed formaldehyde-fixed paraffin-embedded tissue. The method does not require a special microscope and the tissue can be counterstained with hematoxylin to allow recognition of fine histologic detail.

The first major diagnostic use of immunohistochemistry was in the classification of the various forms of glomerulonephritis. Immunoglobulins, complement and other serum proteins can be precisely located in the glomeruli with immunofluorescent techniques. Unlike purely morphologic techniques such as electron microscopy, immunofluorescence is able to distinguish among immunoglobulin subclasses and the various components of the complement pathway, thus permitting a more precise diagnosis and insight into the pathogenesis of the disease.

Today immunohistochemistry has become an aid in many of the problems facing surgical pathologists. Some lymphomas can be differentiated from nonlymphoid neoplasms because many neoplastic lymphoid cells produce immunoglobulins that are expressed in the cytoplasm or on the membranes of the malignant cells. The often troublesome distinction between reactive lymphoid hyperplasia and lymphoma is also aided by immunohistochemistry. The demonstration of a polyclonal proliferation of both k- and λ-light chains containing B cells is characteristic of reactive lesions, whereas B-cell lymphomas generally stain monoclonally for only one class of immunoglobulin light chain. The arrival of antibodies specific for T lymphocytes promises to help in the differentiation of B-cell from T-cell lymphomas.

Immunohistochemistry can establish the cell lineage and site of origin of undifferentiated or metastatic neoplasms. Factor VIII, for example, is a coagulation factor produced by endothelial cells and therefore is helpful in the diagnosis of angiosarcoma. Prostatic acid phosphatase is an isoenzyme present only in prostatic adenocarcinomas and enables a pathologist to differentiate between a primary pulmonary adenocarcinoma and a single nodule of metastatic prostatic carcinoma. Such distinctions are obviously clinically and therapeutically important. In the future, antibodies specific for tumors from all sites of the body will probably become available as organ-specific antigens are discovered against which corresponding antibodies can be produced. The rapidly expanding technology of monoclonal antibody production promises to yield large quantities of relatively inexpensive, commercially available and standardized antisera.

Immunohistochemistry has become an indispensable diagnostic aid in the modern anatomic pathology laboratory because it permits the identification of tissue antigens not recognizable by either routine light or electron microscopy. Diverse structures ranging from the tiny monoamines and polypeptide hormones of the nervous system, the amine precursor uptake and decarboxylation (APUD) cell system and the pituitary gland to complex infectious organisms such as viruses and bacteria are all recognizable through the use of immunohistochemistry.

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Steroid Hormone Receptors in Histologic Diagnosis

Tissue hormone receptor assays are used most often as additional guides in the treatment of breast carcinoma. Estrogen receptor is usually assayed by direct assessment of the estrogen-binding activity of cytosols prepared from tumor tissue (dextran-coated charcoal and sucrose gradient centrifugation techniques). The presence of high-affinity binding sites according to these methods is accepted as a reliable indicator of the probable response of tumor to hormonal manipulation. Progesterone receptor activity is assessed by similar techniques.

These methods have certain disadvantages including high cost, prolonged turnaround and the need for fresh unfixed tissues at the time of biopsy or major surgical procedure. A more important problem relates to tissue sampling—that is, just how much of the tissue block from which the cytosol is prepared consists of breast carcinoma cells and just how much is stroma, myoepithelium or connective tissue. Thus there is a potentially large unknown and unknowable variable in all cytosol assays.

Immunohistologic methods for identifying estrogen receptor in tissue sections seek to avoid these disadvantages. Some investigators have used immunofluorescence methods in an attempt to locate estrogen receptor in frozen sections of breast cancer. In one method estradiol (in the form of polymerized estradiol phosphate [PEP]) is added to the frozen section of breast cancer, followed by specific antibody against estradiol. In principle the PEP binds to free estrogen receptor in the tissue and the antiestradiol antibody then identifies the sites of PEP binding (at the presumed receptor sites). Finally, the location of the antiestradiol antibody is then revealed by immunofluorescence methods.

Immunoperoxidase techniques are similar in principle to the immunofluorescence method, except that fixed paraffin sections of breast tissue are used. This has the dual advantage of providing better morphologic detail while avoiding the need to collect frozen material at the time of biopsy. Initial immunoperoxidase studies used pretreatment with PEP as in the immunofluorescence method. However, it has since been proposed that the addition of antiestradiol antibody alone, without the preceding PEP, may detect estrogen bound in vivo to functionally active receptor sites in breast cancer cells. A still more recent variation of the immunoperoxidase method attempts to use antibodies prepared against the receptor protein itself. Monoclonal antibodies with activity against the presumed estrogen protein have been found successful in immunostaining of paraffin sections (M. Nadji, M.D., University of Miami, personal communication, October 1981).

A number of correlations have been established between immunofluorescence methods, immunoperoxidase methods and orthodox cytosol assays for estrogen receptor, but at this time there is no direct proof that the immunohistologic methods are measuring the same high-affinity receptor protein that is detected by the cytosol assays. The ultimate assessment of clinical application of these immunohistologic methods rests in the performance of clinical trials, comparing the results of hormonal manipulation with the pattern of immunostaining for receptor. For those methods that are applicable to formaldehyde-paraffin sections, such studies can be performed retrospectively on materials stored as paraffin blocks. That immunostaining of tissue sections for estrogen receptor is rapid, relatively inexpensive, may be applicable to fixed-paraffin tissues and avoids the sampling problems inherent in cytosol assays is motivation enough to ensure that these studies of possible clinicopathologic correlations are pursued actively.

Clive R. Taylor, M.D.

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Evaluation of Hypoglycemia

Asymptomatic hypoglycemia has been observed frequently enough in control populations of women (17 percent) and men (25 percent) during a five-hour oral glucose tolerance test (OGTT) to be considered a variant of normality. Reactive hypoglycemia—that is, the symptoms of weakness, shakiness, sweating, tremor and tachycardia—may occur two to five hours after a glucose load as the plasma glucose falls below 50 mg per dl, especially in patients who have had gastrointestinal operations or have early diabetes mellitus. These symptoms are due to the adrenergic discharge triggered by the fall in plasma glucose and not the specific level or nadir observed. No clear-cut lower limit of normal plasma glucose values allows the diagnosis of hypoglycemia on the basis of OGTT results alone. These symptoms are often the result of other causes, such as anxiety, hyperthyroidism, pheochromocytoma or insulinoma.

If a patient's symptoms are to be attributed to hypoglycemia, it is important to determine whether they occur in the fasting state or after eating a meal, and not after a glucose load. OGTT is inappropriate for the diagnosis of fasting hypoglycemia, which is generally due to serious organic disease. To document fasting hypoglycemia, a 48- to 72-hour period of fasting should be supervised in the hospital or until hypoglycemia symptoms occur. At this time serum glucose, insulin and C-peptide levels should be determined. If the serum insulin is greater than 6 μU per ml when serum glucose is less than 40 mg per dl, then an insulinoma is most likely. The normal ratio of glucose to insulin should be greater than 3.6. Patients with insulinoma usually have a ratio of less than 2.5. If the serum C-peptide level is low, however, in relation to the serum insulin, then the patient may be taking insulin surreptitiously. If a patient's symptoms are occurring after meals, a meal tolerance test (a standard breakfast after fasting 10 to 16 hours) should be done. Blood samples are taken every half hour for five hours after the meal. If the lowest glucose value exceeds 60 mg per dl, the result is normal. If the value is less than 50 mg per dl, the tolerance test result is abnormal.

Some individuals may have symptoms during the tolerance test, yet the glucose values are normal. It is important to correlate the onset of clinical symptoms with the glucose values observed during the meal tolerance test. Thus it is possible some other factors such as glucagon or gastrointestinal disorders are altered and trigger the symptoms.

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Hair Analysis: A Potential Diagnostic Tool

Hair can be easily collected from a donor, stored without deterioration and analyzed with great sensitivity with recently developed technologies. Trace elements accumulate at concentrations at least ten times higher than those in blood or urine and may provide a continuous record of nutritional status, exposure to drugs or exposure to pollutants in the environment such as the heavy metals lead and mercury.

The elements and drugs found in hair are incorporated during synthesis of filaments in the follicle. Apparently the disulphide bonds in the cuticular protein of hair are

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ENTERO-TEST® Adult, and Pediatric, a nylon line coiled inside of a gelatin capsule. The Pediatric string is 90cm and the Adult string is 140cm. Both capsules are designed to retrieve duodenal contents without intubation.

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Those parasites that live primarily in the duodenum or bile ducts often are more readily seen in the duodenal contents than in the stool. These include Giardia lamblia (motile trophozoites), Strongyloides stercoralis (larvae and/or eggs in advanced stages of development), Clonorchis sinensis (eggs), Fasciola hepatica (eggs), Trichostrongylus orientalis (eggs), and Isospora (coccidia).

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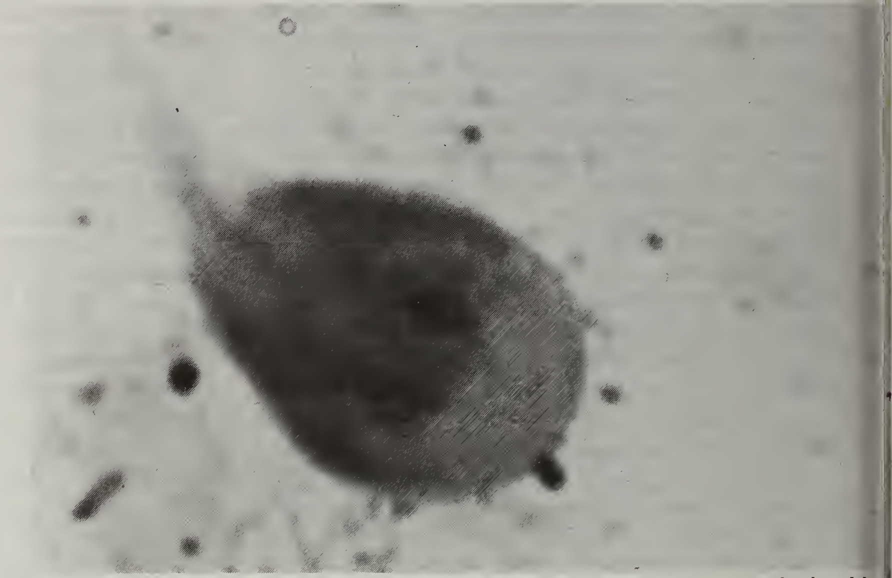

Giardia lambli

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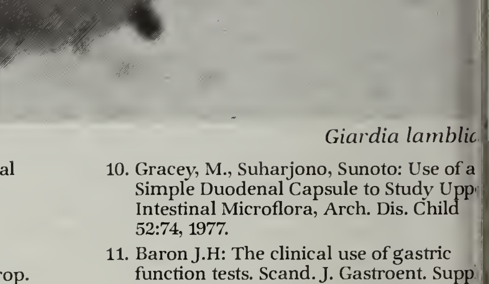

UP TO 96% SUCCESS RATE IN DUODENAL SAMPLIN

sites for the deposition of metal during hair formation. These bonds are also interaction sites for exogenous metals from air, water, sweat or grooming materials. As the follicles are exposed to more substances over time, the amount of substances incorporated in hair filament changes. Thus sequential analysis of filaments, from follicles to tip, provides a timed record of exposure. The intrinsic elements are of medical interest. The extrinsic elements resulting from environmental contaminations interfere with the interpretation of results if one is seeking the low values of nutritional studies, in contrast to the high values of toxicology.

The key to interpretation is the site of collection of the sample on the body and how it is cleaned or prepared before analysis. For example, 5-cm long maternal hair strands measured from the scalp correspond to a fetal growth period from two weeks before conception through 16 to 19 weeks of gestation. The concentration of metals detected in this hair indicates fetal exposure to those metals during the first 16 to 19 weeks of gestation. The results will be accurate providing the laboratory has standardized any one of 24 possible preanalysis methods for cleaning the hair to remove extrinsic metal contamination from intrinsic elements.

Analysis of human hair is an experimental technology that has clinical promise. Currently, valid tests are available to confirm heavy metal toxicity due to lead, mercury and arsenic exposure.

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The Role of *Chlamydia* in Sexually Transmitted Diseases

The broad spectrum of clinical infections due to *Chlamydia trachomatis* has become apparent only in recent years. In the United States it is estimated that approximately 3 million new cases of chlamydial infections occur each year so that it may be the most frequent sexually transmitted disease in this country.

C trachomatis was identified in 40 percent to 50 percent of men with nongonococcal urethritis. A presumptive diagnosis of chlamydial infection can be made in these patients by excluding gonorrhea with a Gram stain and culture. *C trachomatis* was also found to be a common cause of epididymitis in men under 35 years of age.

In women *Chlamydia* can be isolated from 80 percent to 90 percent of patients with hypertropic cervical erosions or with endocervical mucopurulent discharge. In addition, *C trachomatis* was recovered in 30 percent to 40 percent of patients with pelvic inflammatory disease.

Recently *C trachomatis* has been found in 30 percent of infants admitted to the hospital with a diagnosis of interstitial pneumonia. Furthermore, neonatal inclusion conjunctivitis may be the most common eye disease of newborns in the United States. Infants probably acquire these infections during delivery, though the possibility of prenatal or postnatal infection has not been completely excluded.

Chlamydial diagnostic services are now available in several centers and therapy with a wide variety of antimicrobial drugs, including erythromycin, tetracycline or sulfonamides, is highly effective. An increased awareness by the medical community is required in order to effectively control this pathogen.

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HLA and Paternity Testing

Until recently the results of blood group testing for the determination of paternity were admissible as legal evidence only for the exclusion of a putative father. Because of the extreme diversity and low frequency of occurrence of different human leukocyte antigens (HLA) in the population, it is now possible to calculate with a very high degree of certainty the likelihood of a nonexcluded male being the actual father. Fourteen states now accept the results of these studies as legal evidence of paternity. In reporting the effects of HLA testing in 1,000 cases in which paternity was not excluded by ABO blood group testing, Terasaki noted that in 25 percent of the cases paternity could be excluded by HLA testing. Of the remaining cases 67 percent had a probability of paternity of over 95 percent and 16 percent of the cases had a probability of paternity over 99 percent. In this regard the HLA system is so discriminating that it has been possible to relate the paternity of a dizygotic twin pair to two different fathers.

The genes that control the inheritance of HLA are located on the short arm of human chromosome 6. Because everyone possesses a maternally inherited and a paternally inherited sixth chromosome, the identification of the HLA type is the first step towards the indirect identification of that person's sixth chromosome. If the HLA of the parents of that individual are known, it is generally easy to determine which HLA are derived from the maternal chromosome and which HLA are derived from the paternal chromosome. It therefore follows that if a child possesses no HLA in common with an alleged father, that man is excluded.

But if certain HLA patterns are common to both the child and the alleged father the statistical likelihood of that man being the father can be determined. This statistic is influenced by how frequently the HLA patterns being shared are found in the general population. Because there are many HLA patterns, any single pattern tends to occur rarely and often a probability of paternity of 95 percent or greater is found. Despite this, we and others have experienced rare situations in which an alleged father could not be excluded by HLA testing but was successfully excluded by red-cell antigen inheritance patterns or isoenzymes. We therefore recommend that, in addition to HLA testing, as many erythrocyte and serum markers as possible be analyzed in the evaluation of possible paternity.

Lewis Slater, M.D.

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Clinical Application of Free Cortisol Estimation

From time to time the evaluation of a hypertensive patient raises the question of adrenal hyperfunction.

Excess adrenal corticosteroid secretion, Cushing's syndrome, is associated with truncal obesity, a florid appearance and hypertension. Many middle-aged obese individuals with no evidence of hormonal imbalance have a similar appearance. The laboratory can provide useful information to distinguish the two groups.

Cortisol is the major glucocorticoid secreted by the adrenal cortex in response to adrenocorticotropic hormone (ACTH) stimulation. About 90 percent of it is carried in the blood bound largely to an α-globulin called transcortin. The remainder occurs as physiologically active free cortisol. Bound cortisol acts as a reservoir for a supply of hormone available to the tissues of the body. Free cortisol is integrated into body metabolism and approximately 1 percent of it is secreted unaltered in the urine.

Plasma cortisol is a direct measure of bound plus unbound hormone. Diurnal variation normally occurs, with morning awakening levels approximately twice the 4 to 5 PM values. Because elevations of transcortin are associated with increased levels of cortisol, one anticipates elevated plasma cortisol in association with pregnancy or use of agents such as birth control medication.

Urinary free cortisol levels reflect the biologically active unbound hormone. The level is only loosely related to 17-hydroxycorticoids or 17-ketogenics, which are largely liver-derived metabolic breakdown products of cortisol. These derivatives vary with liver function, drugs affecting liver functions and cortisol levels. Excretion of 17-hydroxycorticoid varies with body size and thyroid status.

Urinary free cortisol does not have such interferences. It is one of the most reliable, informative tests to differentiate patients with endogenous Cushing's syndrome from normal persons or from those with central obesity, hirsutism and abdominal striae. Because the test is a specific radioimmunoassay there is no technical interference from drugs. The 24-hour urine sample averages out diurnal variations. Urinary free cortisol normal values are 20 to 100 μg per 24 hours.

An abnormally elevated test result should be followed by plasma cortisol estimations with dexamethasone suppression to clarify the comparative importance of the pituitary and adrenal glands in a patient's illness. The test is not useful for evaluating adrenal insufficiency.

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Hemapheresis

With the advent of modern technology, therapeutic bloodletting has attained a new aura of respectability. *Hemapheresis,* a term derived from the Greek word, *aphairesis,* meaning "taking away," refers to procedures in which a component from donor or patient blood is selectively removed and the remainder of the blood returned to the person.

The major improvement of the new technology has been in allowing selectivity of the component removed, and more specific terms such as plasmapheresis, leukapheresis and plateletpheresis reflect this selective removal.

The collection, component removal and return of the blood are performed by manual and semi-automated techniques, many of these involving differential centrifugation. These methods have greatly enhanced our ability to provide blood component support of platelets and granulocytes for patients undergoing aggressive chemotherapy.

Hemapheresis has also been used more directly on patients to treat a number of diseases, particularly those in which an abnormal protein, an autoimmune antibody or an antigen-antibody complex may play a role. However, only in the hyperviscosity syndrome is there broad agreement that this is the treatment of choice. Promising results have been seen in Goodpasture's syndrome and myasthenia gravis, but the actual contribution of plasmapheresis, drug therapy and supportive care have not yet been defined. In thrombotic thrombocytopenic purpura, the number of patients reported to survive seems to be increasing but, here again, the relative roles of supportive care, earlier diagnosis, drug therapy and plasmapheresis are unclear.

The use of plasmapheresis in the treatment of other conditions is even further from clear proof of efficacy. Recently the National Center for Health Care Technology reported on its evaluation of plasmapheresis in the treatment of rheumatoid arthritis. The report concluded that "plasmapheresis, lymphoplasmapheresis and lymphapheresis for rheumatoid arthritis should be considered experimental, with the possible exception of treatment for life-threatening complications of rheumatoid arthritis such as vasculitis, cryoglobulinemia or hyperviscosity syndrome."

So despite the continuing interest in possible applications of hemapheresis, many of the current applications must still be considered experimental. Most of the successful reports of therapeutic hemapheresis have involved only small numbers of patients.

Careful consideration of what therapeutic goals are desired and how to objectively assess their achievement is most important. These procedures are expensive and not innocuous. Fatal myocardial infarction has been reported to occur during hemapheresis, though no definite causal relation has been established. Increased risk of sepsis in immunosuppressed patients, rebound paradoxical increase in unwanted antibodies and anticoagulant-related citrate toxicity are some of the complications to be considered. The as-yet-unproved benefits of hemapheresis must be weighed against the potential and as-yet-uninvestigated, long-term and short-term ill effects, as well as the substantial health care costs.

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Value of the Muscle Biopsy

The major reason for doing a muscle biopsy is to elicit and confirm the presence of neuromuscular disease. In the past pathologists have been confined to evaluating the presence of denervation, myopathy or inflammation. With the advent of histochemistry, electron microscopy, immunohistochemistry and specialized biochemical procedures, pathologists are now able to evaluate neuromuscular disease from a broader perspective.

Physicians responsible for the clinical evaluation and care of patients with neuromuscular disorders must be in close communication with the pathologist before and after the biopsy. For optimal results a skilled surgeon interested in neuromuscular disorders should do the procedure.

To obtain maximum information, biopsy specimens must be properly processed, with portions soaked in isopentane cooled by liquid nitrogen for histochemistry, another portion processed for electron microscopy and fresh or frozen material stored for later detailed microchemistry, if needed. Such sophisticated procedures, equipment and interpretive expertise for the coordinated investigation of neuromuscular disease preclude routine evaluation of biopsy specimens in most community hospitals. However, we have found that with communication between the referring hospital staff and personal transport of a biopsy specimen (without freezing) within a half hour, excellent preservation can be obtained for histochemical and biochemical results.

Biopsy specimens undergo an enzyme histochemical profile for defining fiber types. Type I fibers are characterized by relatively high mitochondrial oxidative enzyme activity in contrast to type II fibers, which rely more on glycogen as an energy substrate. Morphometric analysis of preferential change in fiber types permits recognition of diseases selective for specific fiber types. Such analysis is useful in determining congenital fiber-type disproportion (CFTD) or fiber-type grouping typical of reinnervation. Abnormal aggregations of mitochondria are typical of the "ragged red" neuromyopathies and other mitochondrial myopathies. Abnormal activity of the lysosome system indentified by acid phosphatase deposition in fibers is characteristic of chloroquine myopathies and acid maltase deficiency (Pompe's disease). Histochemical semiquantitative estimation of enzyme activity may be of help in defining enzyme deficiencies such as myophosphorylase and phosphofructokinase deficiencies, both associated with abnormal ischemic forearm tests.

Electron microscopy is expensive and often unrewarding. Ultrastructural examination should be reserved for selected muscle specimens in which histochemical abnormalities have been identified. Abnormal reactions primarily affecting myofilaments with the formation of ring fibers and target fibers, abnormalities of the transverse Z band with the formation of nemaline inclusions (nemaline myopathy) and confirmation of abnormal mitochondria in the mitochondrial myopathies are typical examples. Unusual organelles including tubular aggregates, masses of myeloid bodies and fingerprint inclusion bodies add specificity to the classification of muscular disease.

Direct immunofluorescence has been applied to the evaluation of muscle disease. Vascular, fiber, perimysial and sarcolemma-basement membrane depositions of immunoglobulins have been identified in patients with connective tissue disorders. Often, to evaluate for the presence of selected neuromyopathies, biochemical analysis is required. For instance, a case atypical central core disease was found to have a specific deficiency of fructose 1,6-diphosphatase. Another unusual case concerned a 60-year-old woman in excellent health in whom acute cramping and myoglobinuria suddenly developed after heavy exertion and who was found to lack myophosphorylase (McArdle's disease). Recently, electrophoretic techniques have disclosed some genetic heterogeneity of myophosphorylase deficiency in which some patients were found to lack the enzyme activity but retained the enzyme protein. Our case underwent sodium dodecyl sulfate (SDS) polyacrylamide gel electrophoresis, which revealed the absence of the myophosphorylase band corresponding to that group lacking both enzyme and protein moieties. The evaluation of long-standing cramps with or without muscle weakness occasionally reveals increased intrafiber lipid. In such cases a biopsy specimen must be analyzed for carnitine and appropriate carnitine transferase activities.

In summary, the application of recent technologies provide a greater understanding of the evolution, natural history and pathogenesis of human neuromuscular disease. The minor discomfort of the technical procedure is greatly overshadowed by the wealth of diagnostic and prognostic information forthcoming from more refined analysis.

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Amniocentesis

The need to study fetuses at risk for Rh incompatibility led to the development of widespread interest in the physiopathology of amniotic fluid and the living cells it contains. Amniocentesis is a safe, well-established procedure done yearly on thousands of pregnant women at risk for a variety of disorders.

The amniotic fluid is generated by the fetal kidneys and lungs and constantly recycled through fetal swallowing. Most amniotic cells are dead or degenerating but a small proportion can be cultured. These cultures contain a variety of slow-growing epithelial cells and fast-growing mesenchymal cells that share many morphologic and biochemical properties with cultured skin fibroblasts.

Amniotic fluid contains phospholipids whose changing composition reflects fetal maturity. This has been exploited for the assessment and prevention of hyaline membrane disease. The association of elevated α-fetoprotein with neural tube defects has led to their early detection. Mucopolysaccaride analysis may occasionally help in the rapid identification of fetuses affected by a mucopolysaccharide storage disorder. A variety of enzymes, including lysosomal hydrolases, can be analyzed but this has not led to practical diagnostic techniques. Most types of urine analysis can be carried out on the amniotic fluid, but this test is often neglected.

The study of freshly pelleted amniotic cells has limited applications but has allowed early diagnosis of selected storage disorders. Fabry's and Sandhoff's diseases and mucolipidosis IV can be detected by ultrastructural demonstration of characteristic inclusions that are not affected by cell degeneration.

Culture of amniotic cells is most commonly used for chromosome analysis and sex determination. Banding techniques have considerably increased the scope of identifiable chromosomal abnormalities. Sex determination has been used for families with crippling X-linked disorders not yet diagnosable in utero, such as Duchenne type muscular dystrophy or hemophilia. More than 30 types of lysosomal storage disorders can be diagnosed by enzyme determination on cultured amniotic cells. Using an elegant technique of DNA molecular hybridization, α-thalassemia can be diagnosed in amniotic cultures. This opens the way to the study of other mutations not expressed and therefore not directly detectable in these cells.

There is a crucial need for properly identifying fetuses at risk. This requires increasingly complex multidisciplinary cooperation. Too many genetic disorders are not recognized until two or more affected children are born in a family. Many probands hide behind such labels as cerebral palsy, multiple congenital abnormalities, autism or mental retardation. Only those families in which a specific chromosomal or biochemical abnormality has been found can benefit from prenatal diagnosis. Incomplete diagnosis, for example, "mucopolysaccharide storage disorder," not characterized by a comprehensive biochemical workup may prevent successful analysis of cultured amniotic cells in the time frame imposed by amniocentesis. Fluid may not be safely obtained before 12 to 14 weeks of pregnancy, and it takes at least three weeks but commonly six weeks to grow enough cells for a reliable analysis, whereas therapeutic abortion, if indicated, should be done no later than the 20th week. Ultramicrotechniques have been described that sometimes allow diagnosis on a single amniotic cell but large-scale practical application of this approach remains to be validated.

Screening groups with known risks, such as women 35 years old or older for trisomy 21, or Ashkenazi Jews for Tay-Sachs disease, has been highly successful. Most genetic disorders are undoubtedly rare but altogether they impose a disproportionate financial and psychological burden on families and, in the end, on the whole society.

Prenatal diagnosis has allowed a growing number of families at risk to have normal children by selected abortion of an affected fetus. Early treatment of abnormal fetuses would be much preferred but it is not conceivable in the near future.

The ethical issues involved have been hotly debated throughout the last decade. Genetic counseling is a relatively new discipline. No physician has a truly extensive experience in these problems, which vary widely with the specific disorders being monitored. A physician needs to guide and inform parents throughout the procedure. In most cases monitoring is of recessive disorders and therefore there is a 3:1 chance that the fetus will be normal or heterozygote. Some have advocated obtaining a primary commitment from parents that they will accept abortion if the fetus turns out to be affected. In practice some families who feel moral objections to a therapeutic abortion change their mind when confronted with the laboratory results. Meaningful counseling should not involve pressure or compulsion. Truly informed discussions whatever the ultimate parental decision are always mutually satisfying.

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Aspiration of Thyroid Nodules by Fine Needles

Investigators at the University of California at Los Angeles and other American hospitals have recently obtained good results in diagnosing thyroid nodules by aspiration. The only surprise is that we have taken so long to apply this simple technique to the problem of thyroid nodules, when aspiration of the thyroid gland has been a standard diagnostic procedure in Sweden and other European countries for almost 30 years. A good specimen of cells and fluid can be obtained from a thyroid nodule by one or two aspirations through a fine (22 or 23) gauge needle. The thyroid aspiration through fine needles can be done in an office or clinic in several minutes without any special preparation, anesthesia or significant complication beyond a rare large hematoma. In many cases results of the procedure can be obtained in minutes or hours, and the cost is low compared with most diagnostic procedures.

Many factors affect the results. A primary factor is the nature of the underlying lesion. For example, an accurate and specific diagnosis can be obtained in most patients with papillary adenocarcinoma or chronic lymphocytic (Hashimoto's) thyroiditis. The findings in patients with colloid goiter are also characteristic and usually provide the correct diagnosis without thyroidectomy. Many cellular follicular nodules, especially well-differentiated follicular neoplasms, cannot be accurately subclassified, but patients with solitary follicular neoplasms can be segregated as candidates for an operation, sparing those with other nodules from needless or inappropriate operations. The experience of the person doing the aspiration and reading the slides affects the results of the procedure. Careful palpation is a requisite for a good aspiration, and an experienced person can actually feel the nodule with the needle during the aspiration and thus can correctly place the needle in the best spot for the aspiration. The specimen should be representative of the nodule.

There are tricks to making good smears from aspirate, and these can be learned. The pathologist interpreting the smears must be familiar with the general principles of cytology and know the specific microscopic features of a variety of nodular lesions of the thyroid gland. This knowledge can be obtained in part through independent study but should include training under experienced teachers and should be reinforced by active practice. The best results have been obtained when the same person does the aspiration and reads the smears. Good results can also be obtained when two people are involved if both are enthusiastic about the procedure and there is good communication between them. Clearly the results get better as the person or persons involved gain experience, and one should not be discouraged by the minor problems of establishing the procedure. Pathologists, endocrinologists, surgeons and physicians involved in the primary care of patients should give serious consideration to this simple, effective and inexpensive procedure for the diagnosis of thyroid nodules.

Jerry Waisman, M.D.

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Physicians' Financial Arrangements with Hospitals

AMA CENTER FOR HEALTH POLICY RESEARCH

This report explores the changing nature of financial arrangements between physicians and hospitals, including:

- the percentage of physicians with a hospital financial arrangement;
- the impact of hospital contracts on physicians' incomes; and
- the type and frequency of these contracts.

The data are from AMA's Socioeconomic Monitoring System (SMS). The information is obtained from the first SMS telephone survey which was conducted in the fourth quarter of 1981. The sample of respondents consists of 1,329 nonfederal patient care physicians, excluding residents.

Physicians with Hospital Contracts

Approximately one-fourth or 78,600 of all nonfederal patient care physicians, excluding residents, have some financial arrangement with hospitals in 1981 (see Table 1). Including residents and federal physicians, who also have hospital arrangements, *the total rises to approximately 156,000 physicians.*

Table 1
NONFEDERAL PATIENT CARE PHYSICIANS WITH FINANCIAL CONTRACTS WITH HOSPITALS, BY SPECIALTY

Specialty	*Total Physicians**	*Percent With Financial Arrangements*	*Estimated Number With Arrangements*
ALL PHYSICIANS	302,300	26%	78,600
Pathology	8,500	78	6,600
Radiology	15,800	58	9,200
Internal Medicine	58,900	36	21,200
Other Specialties	26,000	35	7,500
Psychiatry	22,400	32	7,200
Anesthesiology	13,100	27	3,500
Pediatrics	20,300	17	3,500
General/Family Practice	50,600	14	7,100
Surgery	66,000	11	7,300
Obstetrics/ Gynecology	20,700	10	2,100

*Source: Bidese, C. and D. Danais. *Physician Characteristics and Distribution in the U.S.—1981,* Division of Survey and Data Resources, American Medical Association, Chicago, IL.

Among specialists, pathologists (78%) and radiologists (58%) are those most likely to have financial contracts with hospitals.

Physicians in the fields of obstetrics (10%), surgery (11%), and general/family practice (14%) are least likely to have some financial arrangement with hospitals.

It is important to note that physicians specializing in emergency medicine, who probably have the largest number of agreements with hospitals, are not separately identified in this sample. They are counted in the "Other Specialties" category in Table 1.

Physicians' Incomes and Hospital Arrangements

While hospital affiliations are important to many physicians in that they affect their ability to deliver certain medical services, the extent to which specific contractual agreements with hospitals affects their incomes varies.

Table 2 presents the share and level of net income physicians derive from hospital agreements, according to the SMS findings.

Table 2
PERCENT NET INCOME DERIVED FROM HOSPITAL ARRANGEMENTS, BY SPECIALTY

	*Percent Income From Hospital Arrangement**	*Average Net Income Derived From* Arrangements
ALL PHYSICIANS**	62%	$59,500
Pathology	96	114,100
Anesthesiology	87	84,400
Radiology	80	108,900
Other Medical Specialties	70	55,600
Pediatrics	69	54,100
Psychiatry	56	40,800
General/Family Practice	40	(NA)
Internal Medicine	40	34,500

*This is the percent of net income that *physicians with arrangements* attribute to their financial contracts with the hospital.

**Two few observations are available to report income figures for the surgical classifications.

"NA" denotes too few observations to report.

SMS Report, February 1982, Vol. 1, No. 2. Reprinted with the permission of the AMA Center of Health Policy Research.

The AMA Center for Health Policy Research directs the Socioeconomic Monitoring System in cooperation with the AMA Division of Survey and Data Resources.

Table 3

TYPE OF CONTRACT FOR PHYSICIANS WITH HOSPITAL ARRANGEMENTS. BY SPECIALTY[1]

	Salary	*Fee For Service*	*Percent Of Gross Dept. Billings*	*Percent Of Net Dept. Billings*	*Other*[3]
ALL PHYSICIANS[2]	59%	33%	9%	2%	27%
General/Family Practice	60	27	10	3	19
Internal Medicine	58	45	4	0	22
Surgery	68	29	4	7	46
Psychiatry	87	16	6	3	24
Radiology	30	57	13	2	24
Pathology	53	21	21	3	19

1. The percentages reported in the table exceed 100 percent because some physicians have more than one financial arrangement.
2. Too few observations were available on obstetricians, pediatricians, and anesthesiologists to include these groups.
3. The most frequently encountered arrangements in this category include bonuses, leases, and a minimum guaranteed income, respectively.

The typical physician with a hospital contract reports that 62 percent of his/her income evolved from the arrangement. On average, this share represents approximately $59,500 in earnings.

Again, hospital contracts are most important for pathologists, who say they derive almost all (96%) of their income from these arrangements. Anesthesiologists and radiologists attribute 87 and 80 percent, respectively, of their net income to hospital agreements. In comparison, hospital contracts provide the smallest share of net income to general/family practitioners (40%) and to internists (40%).

Types of Arrangements Physicians Make with Hospitals

The two most common MD-hospital financial arrangements are salary and fee-for-service contracts. Approximately 60 percent of physicians with a hospital contract have a salary arrangement. One-third (33%) report they have a fee-for-service arrangement. Some physicians report arrangements which involve a percentage of the gross or net department billings as well.

Interspecialty variation in financial contracts is highlighted in Table 3. For example, 87 percent of the psychiatrists with contracts have salary arrangements while 16 percent report fee-for-service arrangements with hospitals (because some physicians have multiple arrangements, the sum of the percents exceed 100). In contrast, only 30 percent of the radiologists associated with hospitals are on salary, but 57 percent provide services on a fee-for-service basis.

Also, some physicians receive income from a percentage of gross or net billings. Twenty-one percent of pathologists with hospital contracts receive a percentage of gross department billings while three percent in this specialty receive a part of net billings. Thirteen percent of radiologists earn income from gross billings in the department as opposed to two percent from net billings. Generally, however, nine percent of all physicians with hospital contracts report earning a percentage of gross department billings as contrasted with only two percent who receive a percentage of net billings.

ANNUAL REPORTS

OF THE CONNECTICUT STATE MEDICAL SOCIETY

1981 - 1982

REPORT OF THE SECRETARY

Louis C. Backhus, M.D.

The statistical membership report for the year 1981, and probably for the first time in the history of the Society, indicates a decrease in membership of 12, despite the fact that 229 new members were added in 1981. This is an alarming turn of events.

Last year, it was reported that we had reached a new plateau, with 5013 members, we had broken the 5000 mark. This year we are just about maintaining that level, with membership at 5001 on December 31, 1981. We lost 70 members because of death or transfer in 1981, 15 less than in 1980. However, we lost 171 members because of resignations or non-payment of dues, 48 more than in 1980. As it is noted in the report, both Hartford and New Haven counties have had a net loss in their total memberships.

At a time when the Society has expended large sums of money, on behalf of the membership, in exploring and avoiding a professional liability crisis and threatening legislation, it is inconceivable that we should experience a loss of membership. The CSMS dues rank third from the bottom on a nationwide basis, and despite inflation that has affected all sectors of the population, this is one area which represents foolish economy. In the years to come, medicine will be faced with greater and greater challenges and it behooves every physician to participate in the support of organized medicine. As has been said many times, we must speak with one voice and that voice should come from the Connecticut State Medical Society and not from splintered groups.

The Council has appointed an Ad Hoc Committee on Membership to encourage membership among student members and postgraduate physicians. As of this writing, 105 student members and 95 postgraduate physicians have opted for this new category of dues paying membership. All of these new members have also been enrolled in the American Medical Association. At a time when we are encouraging these young people to get involved in organized medicine, it seems ironic that practicing physicians resign and do not pay their dues; something is amiss.

All we can say is "LET'S GET WITH IT AND DO YOUR PART—SUPPORT YOUR STATE MEDICAL SOCIETY AND THE AMERICAN MEDICAL ASSOCIATION."

MEMBERSHIP REPORT OF THE SECRETARY

FAIRFIELD COUNTY

Membership - January 1, 1981		1395
New Members	50	
Less:		
Deaths	13	
Resignations	16	
Transfers	4	
Non-payment of dues	12	
	45	
NET GAIN		5
Membership - December 31, 1981		1400

HARTFORD COUNTY

Membership - January 1, 1981		1497
New Members	73	
Less:		
Deaths	22	
Resignations	29	
Transfers	0	
Non-payment of dues	43	
	94	
NET LOSS		21
Membership - December 31, 1981		1476

LITCHFIELD COUNTY

Membership - January 1, 1981		200
New Members	14	
Less:		
Deaths	1	
Resignations	8	
Transfers	0	
Non-payment of dues	2	
	11	
NET GAIN		3
Membership - December 31, 1981		203

MIDDLESEX COUNTY

Membership - January 1, 1981		188
New Members	7	
Less:		
Deaths	1	
Resignations	2	
Transfers	1	
Non-payment of dues	0	
	4	
NET GAIN		3
Membership - December 31, 1981		191

NEW HAVEN COUNTY

Membership - January 1, 1981		1289
New Members	60	
Less:		
Deaths	18	
Resignations	25	
Transfers	2	
Non-payment of dues	25	
	70	
NET LOSS		10
Membership - December 31, 1981		1279

NEW LONDON COUNTY

Membership - January 1, 1981		275
New Members	11	
Less:		
Deaths	4	
Resignations	2	
Transfers	0	
Non-payment of dues	2	
	8	
NET GAIN		3
Membership - December 31, 1981		278

TOLLAND COUNTY

Membership - January 1, 1981		50
New Members	6	
Less:		
Deaths	1	
Resignations	0	
Transfers	1	
Non-payment of dues	1	
	3	
NET GAIN		3
Membership - December 31, 1981		53

WINDHAM COUNTY

Membership - January 1, 1981		119
New Members	8	
Less:		
Deaths	0	
Resignations	3	
Transfers	2	
Non-payment of dues	1	
	6	
NET GAIN		2
Membership - December 31, 1981		121

ASSOCIATE MEMBERS	7	
New Members	0	
Less Deaths	2	
Associate Members - December 31, 1981	5	
TOTAL SOCIETY MEMBERSHIP - January 1, 1981		5013
New Members		229
		5242
Less:		
Deaths	60	
Resignations	85	
Transfers	10	
Non-payment of dues	86	
		241
TOTAL SOCIETY MEMBERSHIP - December 31, 1981		5001
NET LOSS FOR YEAR	12	

TOTALS

Fairfield	1400
Hartford	1476
Litchfield	203
Middlesex	191
New Haven	1279
New London	278
Tolland	53
Windham	121
	5001
Associate Members	5
	5006

REPORT OF THE TREASURER

JOHN J. MENDILLO, M.D.

The annual audited financial statements issued by Seward and Monde, Certified Public Accountants, are largely self-explanatory and are published herewith as the report of the Treasurer.

In spite of the economic slump and inflation, we were able to continue to realize income from our investments and changes were made in the investment portfolio to maintain the value of our investments.

The last five years have been extraordinary in relation to the financial expenditures that had to be made on behalf of the Society and its members. It is quite conceivable that we will not be faced with these types of expenditures again. One of the extraordinary items was the Society's defense of the Federal Trade Commission complaint, which started in 1977 and has come to conclusion in 1982. Total costs, as of December 31, 1981 were $140,349. Another major expense was the professional liability study and the development of the Society's own insurance company, entitled "Connecticut Medical Insurance Company". The total expenditure, as of December 31, 1981, for this significant undertaking is $204,306. This is probably the best investment of the Society's funds that has been made, because it resulted in approximately six million dollars savings in premiums for Society members statewide, of which 3.8 million dollars in premiums was saved in Fairfield County. Since the professional liability crisis erupted after the 1981 budget had been prepared, it was decided not to make a membership assessment to cover this expense, but to use the Society's reserve funds.

Despite these astronomical and extraordinary expenses, it was only necessary to use reserves of $78,337. This was made possible because of the following factors: In 1980, $150,215 was added to reserves which included unexpended public information program funds and the increase in investment income resulting from the management of the Society's cash flow. This year $108,761 was earned in interest and dividends, $63,761 more than anticipated in the 1981 budget, which was achieved by our internal accountant. These items gave the Society a cushion to offset the large expenditures and minimized the depletion of the reserves of the Society.

In view of the inflation affecting the expenditures in other items in the 1981 budget, it is deemed that this financial report is quite an accomplishment and reflects prudent management of the Society's funds. Also, unless we are faced with an extraordinary expense in 1982, it is quite possible that we will be able to add to our reserves at the end of 1982. It might be added that all of this has been accomplished with a minimum of increases in the dues structure.

Seward and Monde

Certified Public Accountants

The Connecticut State Medical Society
New Haven, Connecticut

We have examined the balance sheet of The Connecticut State Medical Society as of December 31, 1981 and the related statement of income and fund balance, general fund and the statement of special fund balances for the year then ended. Our examination was made in accordance with generally accepted auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of The Connecticut State Medical Society at December 31, 1981 and the results of its operations for the year then ended in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Seward and Monde

March 29, 1982

Balance Sheet December 31, 1981

			SPECIAL FUNDS			
ASSETS	TOTAL	GENERAL FUND	GURDON W. RUSSELL	O. C. SMITH	BUILDING	FUNDED RESERVE FOR DEPRECIATION
Cash	$523,645	$403,924	$1,106	$3,885		$114,730
Investments - at cost (Note 2) (market value $187,935)	197,679	196,600	1,079			
Note receivable (Note 3)	4,999	4,999				
Dues receivable	2,063	2,063				
Accounts and reimbursements receivable	19,096	19,096				
Due (to) from other funds		782				(782)
Land	12,270				$ 12,270	
Building and building equipment (Note 1)	140,172				140,172	
Automobile emblems on hand	204	204				
Prepaid expense	2,805	2,805				
Totals	$902,933	$630,473	$2,185	$3,885	$152,442	$113,948
LIABILITIES AND FUND BALANCE						
Accounts payable	$ 47,233	$ 47,233				
Accrued expenses payable	9,025	9,025				
Unexpended C.N.A. malpractice insurance advance (Note 5)	4,626	4,626				
Fund balance	842,049	569,589	$2,185	$3,885	$152,442	$113,948
Totals	$902,933	$630,473	$2,185	$3,885	$152,442	$113,948

See notes to financial statements.

Statement of Income and Fund Balance
General Fund

	Years ended December 31 1981	1980
Income:		
Dues earned:		
Regular assessment	$602,860	$602,782
Less, Commissions paid	2,202	1,167
	600,658	601,615
Interest and dividends received	108,761	79,210
Rental income	6,600	6,600
Income from collection of A.M.A. dues	3,563	4,057
Loss on sale of securities		(3,476)
Miscellaneous	1,340	1,234
Gross income	$720,922	$689,240
Expenses:		
Executive Director's office	$271,903	$242,878
Treasurer's office	3,902	4,802
General	185,127	105,313
Building operation	30,809	26,314
Contingent fund	181,620	43,617
Committee allotments	25,542	22,866
Annual and semiannual meetings	10,274	8,618
Totals	$709,177	$454,408
Income before loss from Journal operations	$ 11,745	$234,832
Deduct, Journal expenses in excess of income	90,082	84,617
Net income (loss)	(78,337)	150,215
Fund balance, January 1	647,926	497,711
Fund balance, December 31	$569,589	$647,926

See notes to financial statements.

Statement of Special Fund Balances
Year Ended December 31, 1981

GURDON W. RUSSELL

Balance, January 1	$ 2,091
Add, Income received on investments	94
Balance, December 31	$ 2,185

O. C. SMITH

Balance, January 1	$ 3,657
Add, Interest received on savings accounts	228
Balance, December 31	$ 3,885

BUILDING

Balance, January 1	$152,442
Balance, December 31	$152,442

FUNDED RESERVE for DEPRECIATION

Balance, January 1	$ 96,797
Add, Interest on savings accounts	14,951
Transfer from General Fund	2,200
Balance, December 31	$113,948

See notes to financial statements.

December 31, 1981
Notes to Financial Statements

1. Accounting Policies and Practices:

The Society's headquarters premises consisting of land, building and building equipment are recorded in the Building Fund at their original cost.

Depreciation on the building and building equipment is provided for out of current General Fund income by an annual transfer of $2,200 to the Funded Reserve for Depreciation where funds are accumulated to be used for renewals or replacements of the property.

Expenditures for office furniture and equipment, which are not significant, are made, in most instances, from funds of the Gurdon W. Russell Fund and are treated as a current year expense of that fund.

2. Investments:

Investments of the Society at December 31, 1981 consist of the following:

GENERAL FUND

Common Stock:

NUMBER OF SHARES		BOOK VALUE	MARKET VALUE
712	American Electric Power Company, Inc.	$ 18,710	$ 11,570
100	American Telephone & Telegraph Co.	5,139	5,875
200	Eastman Kodak Co.	13,323	14,225
1,000	Exxon Corporation	23,421	31,250
700	International Business Machine Corp.	44,716	39,813
1,000	Mobil Corp.	19,977	24,125
500	Public Service Co. of New Mexico	10,587	11,875
200	Schering Plough	7,531	5,600
400	Tenneco, Inc.	10,892	13,400
300	United Technologies Corp.	12,394	12,525
400	Xerox Corporation	29,910	16,200
	Total common stock	$196,600	$186,458

GURDON W. RUSSELL FUND

NUMBER OF SHARES			
127	American Financial Enterprises	$ 706	$ 1,270
5	New York, New Haven and Hartford Railroad Co., 5% conv. pfd. stk.-Series A	128	1
5	Penn Central Corp. common stock	245	206
	Totals	$ 1,079	$ 1,477
	Grand totals	$197,679	$187,935

3. Note Receivable

The note receivable of $4,999 is a non-interest bearing loan made to the New Haven County Medical Foundation on April 3, 1974. Under the terms of the note, repayment is to be made "when feasible".

4. Pension Plan:

The Society has a non-contributory pension plan for its employees and makes actuarially computed annual payments. The plan provides for split-funding whereby part of the payment to the plan is used to purchase individual contracts containing life insurance and part is used to purchase investments.

Payments into the fund were $31,416 in 1981. A comparison of accumulated plan benefits and plan net assets as of February 1, 1981 is presented below:

Actuarial present value of accumulated plan benefits:	
Vested	$169,676
Nonvested	9,195
	$178,871
Net assets available for benefits (at market value)	$167,155

The weighted average assumed rate of return used in determining the actuarial present value of accumulated plan benefits was six percent.

5. Unexpended C.N.A. Malpractice Insurance Advance:

The Society acts as administrator of a malpractice insurance program, underwritten by C.N.A. Insurance Company, for Society members in the four smallest Connecticut counties. Pursuant to the provisions of the program, the Society received a maximum of one percent of the estimated annual premiums to offset program expenses incurred by the Society as administrator.

During the year ended December 31, 1981, the Society received an advance totaling $9,600 and has applied program expenses totaling $4,974 against this advance. The remaining $4,626 is unexpended at December 31, 1981 and is available to offset future program expenses for the program year that ends September 30, 1982.

6. General:

The Society anticipated an excess of $1,020 in income over expenses in its budget for the year 1981. Actual operations for the year 1981 resulted in a net loss of $78,337 or $79,357 more than the amount projected by the budget as shown in the following summary:

	ESTIMATED	ACTUAL	ACTUAL UNDER OR OVER* ESTIMATED
Income from dues	$615,000	$600,658	$ 14,342
Income from Journal	59,000	70,891	11,891*
Interest and dividends	45,000	108,761	63,761*
Rental income	6,600	6,600	
Income from collection of AMA dues	3,500	3,563	63*
Miscellaneous	500	1,340	840*
Totals	$729,600	$791,813	$ 62,213*

	ESTIMATED	ACTUAL	ACTUAL UNDER OR OVER* BUDGET
Executive Director's office	$277,994	$271,903	$ 6,091
Treasurer's office	7,100	3,902	3,198
General	207,400	185,127	22,273
Building operation	31,625	30,809	816
Contingent fund	15,000	181,620	166,620*
Committee allotments	14,825	25,542	10,717*
Annual and semi-annual meeting	12,000	10,274	1,726
Journal	162,636	160,973	1,663
Totals	$728,580	$870,150	$141,570*
Excess of anticipated net income over actual net loss			$ 79,357

The Executive Director's office has collected yearly dues for The American Medical Association, of certain county associations and other miscellaneous organizations for the year 1981. At December 31, 1981, substantially all collections to that date had been remitted to the appropriate organizations.

7. O. C. Smith Fund:

The fund was established under the will of Dr. O. C. Smith. The will states that the original bequest of $1,000 be held and invested as a separate fund and the income thereof to be used to pay the dues of any member of the Society who may be unable to pay such dues themselves.

ACCOUNTANT'S REPORT ON OTHER FINANCIAL INFORMATION

The audited financial statements of The Connecticut State Medical Society as of December 31, 1981 and our report thereon are presented in the preceding section of this report. The financial information presented hereafter was derived from the accounting records tested by us as part of the auditing procedures followed in our examination of the aforementioned financial statements, and in our opinion it is fairly presented in all material respects in relation to the financial statements taken as a whole. However, it is not necessary for a fair presentation of the financial position and the results of operations of The Connecticut State Medical Society.

Seward and Monde

March 29, 1982

Details of Expenses

	Years ended December 31	
	1981	1980
Executive Director's Office:		
Personal services	$218,697	$200,909
Payments to widow of former executive secretary	3,000	3,000
Staff travel and expense	11,041	8,828
Office supplies	221	800
Maintenance of office equipment	359	456
Printing and postage	6,863	4,635
Telephone and telegraph	1,095	1,380
Sportsmed publication	3,611	2,751
C.S.M.S. Newsletters	6,932	5,310
Subscriptions	517	178
News clipping service	471	429
Addressograph service	348	175
Automobile lease	4,200	
Xerox rental	2,142	1,500
Social security taxes	12,807	10,581
Unemployment taxes	1,716	1,794
Miscellaneous	82	152
Subtotals	274,102	242,878
Less, Allocation to C.N.A. malpractice insurance program	(2,199)	
Totals	$271,903	$242,878
Treasurer's Office:		
Printing and postage:		
Collection of society dues	$ 699	$ 1,147
Collection of A.M.A. dues	606	622
Auditors	875	1,425
Computer service	450	404
Investment counsel	1,212	1,157
Telephone and telegraph	60	47
Totals	$ 3,902	$ 4,802

	Years ended December 31	
	1981	1980
General:		
President of Society	$ 1,750	$ 1,750
Chairman of Council	1,250	1,250
Council expense	3,739	2,829
Delegation to A.M.A. Conventions	15,941	17,512
Legal counseling	10,571	4,063
Legislative counseling	16,044	14,876
Public information program	76,385	2,674
Defense of Federal Trade Commission complaint	6,509	9,606
Employees' pension fund	31,416	32,749
Trustee and administrative fees pension fund	1,947	1,450
Employees' health insurance premiums	10,088	7,705
David A. Grendon Memorial financial aid fund for medical students	8,000	8,000
General insurance	1,487	849
Totals	$185,127	$105,313
Building Operation:		
Municipal taxes	$ 8,944	$ 7,529
Comprehensive insurance	1,567	1,416
Custodial services	2,826	4,785
Supplies	706	911
Electricity, gas and water	4,057	3,384
Fuel	2,307	1,201
Maintenance of grounds	978	883
Depreciation	2,200	2,200
Telephone	4,002	2,919
Repairs and replacements	2,671	677
Burglar alarm system maintenance	551	409
Totals	$ 30,809	$ 26,314

	Year ended December 31, 1981
Contingent Fund:	
Professional liability study program	$172,224
Professional liability convention - San Francisco	2,532
Non-member survey	1,542
C.S.M.S Delegates to state societies, etc.	1,449
C.S.M.S. awards	956
Council of New England State Medical Societies	705
A.A.M.S.E. membership	700
A.M.S.A. convention	400
Auxiliary Legislation Conference	304
Public law 96341 meeting - Chicago	261
C.M.E. meetings	159
Sportsmed projects	104
Miscellaneous contributions and dues	110
Miscellaneous	174
Total	$181,620

	Years ended December 31	
	1981	1980
Committee Allotments:		
Public Health	$ 127	$ 211
Legislation	14,749	12,453
Liaison Committee - Pharmacy Association	442	430
Cancer Coordinating Committee	500	276
Connecticut Advisory Committee - foods and drugs	163	125

Mental Health	168	154
Hospital Committee	69	3
Third Party Payments	326	197
AMA - ERF Campaign	202	247
Perinatal Mortality and Morbidity	165	211
Emergency Medical Services	128	416
Continuing Medical Education	385	584
Cooperation Committee - Medical Schools of Connecticut	96	68
Public Relations	558	2,320
Council of New England Medical Societies	175	175
Committee on Program of Scientific Assembly	8	139
Judicial Committee	169	114
Liaison Committee - Dept. of Income Maintenance	106	193
Forum for Medical Affairs	150	150
Professional Liability	3,883	2,669
Peer Review Systems	7	293
Statewide Medical Planning	336	373
Drug Abuse Educational Program	70	180
Maternal Mortality and Morbidity	70	3
Continuing Medical Care and Rehabilitation		1
Allied Medical Services	269	136
Committee on Medical Aspects of Sports	174	245
Auxiliary to Connecticut State Medical Society	2,000	500
Miscellaneous Committees	47	
Totals	$ 25,542	$ 22,866

	Years ended December 31 1981	1980
ANNUAL AND SEMI-ANNUAL MEETINGS:		
Income:		
Exhibits	$ 4,550	$ 6,700
Expenses:		
Hotel rental	$ 1,275	
Printing and postage	2,741	$ 3,538
Badges	115	107
Exhibit decorator, rentals and equipment	754	486
A.M. House of delegates	4,177	4,013
Luncheon and dinner expenses (guests and entertainment)	2,730	2,693
Speakers and visiting delegates	1,073	1,664
Staff and miscellaneous expense	81	352
Photographs	28	62
Semi-annual meeting	1,850	2,403
Totals	$ 14,824	$ 15,318
Excess of expenses over income	$ 10,274	$ 8,618

Details of Journal Operations

	Years ended December 31 1981	1980
Income:		
Advertising (net of commissions)	$ 55,855	$ 44,713
Subscriptions (non-members)	4,377	4,115
Reprints	9,738	6,629
Authors' alterations	577	591
Authors' subsidies	50	955
Single copy	20	8
Roster book	274	85
Miscellaneous		350
Total income	$ 70,891	$ 57,446
Expenses:		
Personal services	$ 40,889	$ 37,177
Manufacturing cost:		
Printing-Journal	89,025	78,923
Printing-Roster	7,031	6,391
Postage and handling	7,797	6,390
Reprints	6,400	4,075
Other:		
Printing and postage	2,377	1,757
Office supplies	727	652
Telephone	730	750
Sales tax	176	59
Editorial Board meetings	107	47
Local travel expense	720	1,451
Maintenance of office equipment	370	393
Subscriptions	129	424
Registration of copyrights	250	250
Libel and slander insurance	424	418
Advertising agent	331	
Social security taxes	2,719	2,277
Unemployment taxes	632	592
Miscellaneous	139	37
Total expenses	$160,973	$142,063
Excess of expenses over income	$ 90,082	$ 84,617

REPORT OF THE COUNCIL

GUY W. VAN SYCKLE, M.D., *Chairman*

The Council met 3 times since the Semi-annual Session of the House of Delegates on November 18, 1981.

Since all members of the House have received detailed copies of the minutes of each meeting, this report is limited to those matters which are felt to merit special emphasis.

At the conclusion of the report, as Appendixes, there are published items of business which are transmitted by the Council to the House accompanied by recommendations of the Council. The number given to each of these appendixes is identical with the number of the related section of this report. The minutes of the last Council meeting on May 6 are enclosed.

1. Professional Liability Program

The CNA Insurance program in Connecticut continues to do well with over 2,400 physicians enrolled. The CNA Advisory Panel, drawing from state, counties and the CNA organization, is well established and provides the means for reaching consensus on issues concerning the program. In this program both state and county associations play important roles. Hartford, Fairfield, New Haven and New London provide the necessary input for their members while the State Medical Society handles these functions for the other four counties.

During the very heavy press of applications in the Fall, certain information supplied by physicians was accepted in good faith which will now be evaluated more carefully. One of these is membership status. The CNA through the Arthur Watson agency will set up procedures with the CSMS and each county association to keep a record of all changes in membership status. If a physician is removed from membership in good standing by either the county or the state, it will be necessary for the CNA to know the reason in order to allow for underwriter evaluation. The establishment of procedures to review those denied membership will receive priority at the next CNA advisory panel meeting. Beginning on October 1, 1982, all new physicians entering the program will be required to be members of both state and county associations.

On February 17, 1982, John Dorsett of American Health Systems presented a report to the incorporators of the Connecticut Medical Insurance Company and Chairman of the Council. Also present were the CSMS Executive Director, T. Norbeck, Attorney L. Randall together with other attorneys from Wiggin & Dana and D. Funk of AHS. The report and plan were discussed. The report contained AHS's recommended plan for the captive company when and if the Connecticut State Medical Society decides to implement its own company. The most recent actuarial analysis is to be completed shortly and the report submitted informally to the Chief Examiner of the State Insurance Department for his evaluation. No formal action was taken at the meeting by the incorporators. Neither the meeting nor the report commits the Society to implement the company in the future or to contract with AHS for management services. If the Society does decide to implement the company, it can be done within four months time.

A detailed financial summary of all expenditures connected with the formation of the physician owned insurance company is available. To date, $204,305.92 has been expended.

2. Reports From Physicians and Staff Regarding Activities on State and Federal Agencies

The Council continues to be informed regarding activities of these agencies through the reports presented to the CSMS Council members by physician representatives and assigned staff. Monitoring these activities indicates that defunded agencies are continuing efforts to perpetuate their activities in the field of health planning. Multiple plans stressing consolidation of activity and staff have been proposed and efforts still continue to obtain reinstitution of federal funding.

3. Principles for Voluntary Medical Peer Review

The Council voted to adopt the AMA principles for voluntary medical peer review and to recommend approval by the CSMS House of Delegates at its meeting on May 26, 1982. (Appendix Item No. 3)

4. Ad Hoc Committee on Nursing Study

At the December meeting, the Council formed an Ad Hoc Committee, chaired by Frank K. Abbott, M.D., to study and report on the recently published National Commission on Nursing report. The material included in this report has resulted in significant concern at local and national levels. Dr. Abbott has been requested to complete the committee deliberations and have a report ready for the House of Delegates at this meeting.

5. Legislation

The Council has received regular reports from Dr. Isadore Friedberg, Chairman of our Legislative Committee. This year, despite the standard calls for reduction in the number of bills submitted to the Legislature, the number keeps growing and this year is no exception. In response to the direction of the House, the Committee has paid particular attention to legislation defining death and, at present, this new definition will be included with a proposal to legalize living wills. Other legislative proposals which has called for particular attention by the Committee are legislation concerning the HMOs in Connecticut and legislation requiring cars carrying children four years old and younger to have passive restraint systems. A review of the outcome of these and other bills affecting the Society will be summarized at the House of Delegates meeting.

6. Federal Trade Commission Suit on March 23, 1982

The United States Supreme Court in a four-four tie vote left standing a lower court order upholding the Federal Trade Commission in its dispute with the AMA over physician advertising. The Supreme Court vote had the affect of affirming the decision of the U.S. Circuit Court of Appeals which had ordered the AMA to cease and desist from regulating certain business aspects of the medical profession and disaffiliate any component Society that failed to comply with the FTC's original order as modified. Under the order the AMA may promulgate reasonable ethical guidelines that prohibit misleading, false or deceptive advertising and allows organized medicine to conduct professional peer review of fee practices of physicians. By the split vote, the Supreme Court has failed to resolve important issues raised by the FTC's attempt to regulate the medical profession and, therefore, it will be appropriate for Congress to consider these issues. Our legal counsel will be available to answer questions regarding the impact on the Society of this outcome.

7. Resolution from Committee on Third Party Payments

The following resolution was approved by the Council and is referred to the House of Delegates for endorsement as Society policy.

RESOLVED:

That the Connecticut State Medical Society vigorously support the proposition that third party payors reimburse for medical care equitably based on the appropriateness of the service rendered, appropriate guidelines and criteria, and not based on the site in which medical care is delivered. (Appendix Item No. 7)

8. Report of the Subcommittee on Preliminary Study of Nominations

With several amendments, it was voted to approve the report of the Subcommittee and to transmit a complete slate of nominees to the House of Delegates for action, with the Council's recommendation for approval. (Appendix Item No. 8)

CONCLUSION

As indicated in the opening paragraph, any matters that are thought to be of major importance have been included in this report and the members of the House are urged to review the minutes of the meetings held since the Semi-annual Meeting of the House of Delegates; and the Chairman of the Council will be very happy to answer questions about any item in this report or about any items recorded in the minutes of the last four meetings of the Council. At this time, the Chairman would like to express his sincere appreciation and thanks to all members of the Council and staff whose cooperation and assistance have been invaluable.

APPENDIXES TO THE REPORT OF THE COUNCIL

APPENDIX ITEM NO. 3

Subject: Principles for Voluntary Medical Peer Review

1. Medical Peer Review is an organized effort to evaluate and analyze medical care services delivered to patients and to assure the quality and appropriateness of these services. Peer review exists to maintain and improve the quality of medical care.
2. Medical Peer Review is a local process.
3. Physicians are ultimately responsible for all peer review of medical care.
4. Physicians involved in peer review should be representatives of the medical community; participation must be structured to maximize the involvement of the medical community. Any peer review process must provide for consideration of the views of individual physicians, groups of physicians, or institutions under review.
5. Peer review evaluations are based on appropriateness, medical necessity, and efficiency of services to assure quality medical care.
6. Any system of medical peer review must have established procedures.
7. Peer review of medical practice and the patterns of medical practice of individual physicians, groups of physicians, and physicians within institutions is an ongoing process of assessment and evaluation.
8. Peer review is an educational process for physicians to assure quality medical services.
9. Any peer review process must protect the confidentiality of medical information obtained and used in conducting peer review.

APPENDIX ITEM NO. 7

Subject: Third Party Payors

The Council recommends to the House of Delegates that the following resolution be approved by the House of Delegates as Society policy:

"RESOLVED:

That the Connecticut State Medical Society vigorously support the proposition that third party payors reimburse for medical care equitably based on the appropriateness of the service rendered, appropriate guidelines and criteria, and not based on the site in which medical care is delivered".

APPENDIX ITEM NO. 8

Subject: Report of the Nominating Committee

The Council recommends that the Report of the Nominating Committee, as published in this Handbook, be approved by the House of Delegates.

REPORT OF INTERIM MEETING OF THE AMA HOUSE OF DELEGATES

Las Vegas, December 6-9, 1981

The Interim Meeting of the AMA House of Delegates was characterized by accelerated activity and new enthusiasm. This was the result, in part, of signals indicating the aims and attitudes of the new Federal Administration for dealing with health care. Speeches by newly-appointed administrators of the Department of Health and Human Resources had given some assurance of our intent to work closely with the AMA. This attitude was reinforced by meetings of the leadership of the AMA with President Reagan and others in Washington, D.C. Finding areas of general agreement with proposed objections, the tone was set for positive action. 452 members of the House, including 69 representatives of Specialty Organizations, were in attendance.

Reports of the President, Chairman of the Board of Trustees, Executive Vice President and the various Councils were received. 89 Resolutions were considered by the House. Detailed information with respect to these items has been widely disseminated to the membership, and others, through the weekly report of the Executive Vice President's Office (Green Sheet), AM News and other publications. With the cooperation of the Editor, Dr. Fabro, summary reports of many of the actions taken by the Delegates, in addition to the information recorded in the minutes of the Council, have been published in *Connecticut Medicine.* To avoid undue repetition, the present report calls attention to some highlights of the Interim Meeting considered to have particular interest for the Delegates of the Connecticut State Medical Society.

Daniel T. Cloud, M.D., AMA President, addressing the House, predicted that the decade of the 80's will offer great challenges and opportunities for the Association as "a political, economic and social renaissance is in the making". He noted that, faced with a total health care bill which reached $247 billion (private sector = $143 billion) in 1980 (9% of the GNP), *"the cost of medical care is a leading national concern today."* He called for strong leadership to lead the private sector to realistic containment of costs without government regulation or adverse effects on quality and availability of medical care. The necessity to meet this problem was further emphasized by representatives of federal and state government and the private sector in addresses at the recent AMA Leadership Conference ("A New Beginning"). Establishment of health care coalitions to find methods of restraining cost was encouraged.

Executive Vice President, James H. Sammons, M.D., spoke of recent changes in the administrative structure designed to provide a "leaner more efficient AMA." This was essential to maintain a financially sound organization.

Joseph F. Boyle, M.D., Chairman of the Board of Trustees, in a synopsis of an AMA Conference dealing with "Medicaid Changes, Block Grants and New Responsibilities of State Departments of Health" indicated there was general support of the attendees for the Block Grant concept and development of a partnership between state health departments and state medical societies in promoting programs placing emphasis on "health rather than welfare".

In summary form, the AMA Delegates:

1. Allowed medical students to serve as delegates from state medical societies.
2. Rejected the concept of slotting student and resident membership on the AMA Board of Trustees.
3. Admitted six more specialty societies to the House of Delegates.
4. Authorized the Board of Trustees to conduct a comprehensive study of the structure and size of the House of Delegates and to submit recommendations at the 1982 Annual Meeting.
5. Called for close monitoring of all legislative issues dealing with pro-competition consumer choice bills, stressing that all proposals to increase competition in the medical service market strike a sensitive balance among considerations of cost effectiveness, access and quality.
6. Referred to the Board of Trustees of a series of resolutions and reports relating to emergency care and satellite centers sponsored by individual hospitals which have resulted in increased physician-hospital competition.
7. Adopted a report calling for equitable payment of hospitals by government and private payors.
8. Adopted a set of principles for voluntary medical peer review, stressing appropriateness, medical necessity, and efficiency of services. Such peer review to be carried out by physicians with maximum involvement by the local medical community.
9. Supported legislation to delete the three-day prior hospitalization requirement for providing extended care facility benefits under Medicare.
10. Supported continued adequate federal funding of biomedical, behavioral and clinical research activities at a level that will enable the excellence of research to continue, while recognizing the compelling need for a prudent and conservative federal budget.
11. Approved designation by the Health and Human Services Secretary of a central maternal and child health office.
12. Endorsed American Medical Association participation in health care coalitions stressing cost control and local decision making.
13. Expressed concern regarding potential abuses of the tentative findings of the Graduate Medical Education National Advisory Committee (GMENAC).
14. Advocated that the supply of physicians be determined by free-market forces rather than by a regulatory process, and pledged to provide physicians with information that would help them choose specialty and geographic areas that require their services.
15. Urged state licensing authorities to continue to recognize the National Board of Medical Examiners' certificate for the purposes of medical licensure, and support a single Federation Licensing Examination (FLEX) instead of the proposed FLEX I—FLEX II concept.
16. Resolved to inform the President and the Congress of the medical consequences of nuclear war, emphasizing that there is no adequate medical response.

Report for Connecticut AMA Delegation:
Orvan W. Hess, M.D., Chairman
Guy W. Van Syckle, M.D.
Frank K. Abbott, M.D.
Isadore H. Friedberg, M.D.
Stewart J. Petrie, M.D.
William A. Whalen, M.D.

COMMITTEE ON CONTINUING MEDICAL EDUCATION

Chairman: Donald L. Brown, M.D.

Number of Members: 16
Number of Meetings: 2
Average Attendance: 8

Summary of Activities:

During the 1981 activity year, the committee accredited or renewed CME accreditation of four hospitals, and contacted eighteen others, whose renewal of accreditation has become overdue. Site surveys for this group have begun. Forty-one institutions and organizations now have CME programs accredited by CSMS.

The CSMS Council has approved a new charge to the committee reflecting its present functions, responsibilities, and goals, and to serve as its mission statement for the future:

> "The goal of the committee is to promote voluntary continuing education activities among CSMS members, and to support their lifelong commitment to continuing medical education.
>
> "The function of the committee is to enhance and encourage the availability of accredited CME of high quality through its status as the intrastate accrediting agency responsible to the national Accreditation Council for Continuing Medical Education (ACCME), and to make available information and consultation regarding CME methodology to those individuals responsible for organizing CME throughout the State of Connecticut."

Since its last annual report, the committee has also sponsored an educational meeting for hospital CME Directors presented by the CME staff of the Hartford Hospital. Through its members, the committee has also participated in two national CME conferences.

COMMITTEE ON PROFESSIONAL LIABILITY

Chairman: Lawrence B. Ahrens, M.D.

Number of Members: 19
Number of Meetings: 1
Average Attendance: 15

Summary of Activities:

The Committee on Professional Liability met in June, following the adoption and sponsorship of the CNA Physician Protection Program by the Council, and its concomitant decisions not to implement the Society's "captive" company, CMIC, and to terminate the CSMS sponsorship of the Aetna Program at the end of the account year.

The Council has assumed the responsibility of continuing the development of CMIC to the point where it was ready for future implementation whenever the need might arise. The Incorporators of CMIC met with American Health Systems to review the final legal and financial papers in February in preparation for a submission to the State Insurance Commissioner for his review and advice.

The new CNA-CSMS Physician Protection Plan is administered through the County Associations and by CSMS Staff for the four smallest counties. The statewide CSMS sponsorship is mediated by the President, Chairman of the Council, and CSMS Executive Staff through their membership on the CNA Advisory Panel. This panel has met on a quarterly basis to reach consensus on underwriting standards, claims review procedures, and other administrative and policy matters. 2440 members are now enrolled in the CNA-CSMS Program.

There is no longer a formal relationship between the Society and the Aetna, although the four CSMS District Review Panels continue to meet on a monthly basis at the request of CSMS defendants, to review claims and to advise concerning the standard of care and possible negligence. Participation continues at very high levels. Over 1,000 claims from the previous ten years of the Aetna program are outstanding, and more can be expected from the 25% of CSMS members still insured by the Aetna.

CSMS also continues its Patient Injury Prevention Program, distributing "sterilized" episodes supplied from Aetna's claim files to CSMS Liaison Officers, Chiefs of Staff, Directors of Medical Education, and Quality Assurance Chairmen in the hospitals and Specialty Sections. An informal survey by CSMS last fall indicates that the episodes and their analyses are finding increasing utilization for Quality Studies and the prevention of maloccurences in at least half of the hospitals. Of those using the episodes, most felt that potential malpractice exposure had been prevented as a result. Thirty-one of the thirty-six respondents, whether using the program or not, wished to continue receiving the episodes, which are sent out in groups of three every two or three months.

In lieu of an Annual Report, Aetna supplied CSMS with a dividend calculation for the preceding cumulative years of the CSMS-Aetna Program, in accordance with its previous commitments to the Society. No dividend was payable for 1981, since the cumulative loss deficit for the 1971-1979 account years had grown from $12 million in 1980 to nearly $26 million in 1981. This is offset somewhat by nearly $4 million in cumulative expense savings, but all but $1 million of these expense savings had already been paid back to policy holders in the dividends declared in 1973, 1974, and 1978, so the net underwriting deficit as of 4/1/81 was some $25 million. It should be understood, of course, that an insurance company has additional revenues from investment income on the substantial reserves not yet paid out in settlements, awards, and expenses. Much, if not most of the funds characterized as "losses" for underwriting purposes, are actually *anticipated* losses, and kept in reserve.

It is estimated that the more than $200,000 spent in "stirring up the waters" in 1980 and 1981 of our malpractice market has resulted not only in the creation of a captive CSMS insurance company "on the shelf", but also in the return of competition to the marketplace, resulting in a saving of 5 to 6 million dollars in lower professional liability insurance costs to most of our members. We trust that continued vigilance and preparedness can consolidate this new stability of price and choice, to the benefit of the profession and of the health care system in general.

Report prepared by the CSMS staff.

AYR INSURANCE AGENCY, INC.

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ELMCREST PSYCHIATRIC INSTITUTE is a 105-bed private mental health treatment center offering a comprehensive program of diagnostic, consultative, treatment, rehabilitative, and educational services for adults and adolescents. Psychological and emotional disorders are treated within the context of a therapeutic community.

FOR FURTHER INFORMATION CONTACT:

Gordon R. Beem, M.P.H.
Administrator

Lane Ameen, M.D., F.A.P.A
Medical Director

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Month in Washington

Major revisions in Medicare and Medicaid and important changes in pension plan provisions are building momentum toward final congressional passage.

Senate approval of a package bill carrying out sweeping program changes and raising some $100 billion in taxes over three years put immediate pressure on the House to follow suit. The Senate vote was along party lines, 50 to 47, on a measure adopted by the Senate Finance Committee.

The Senate bill incorporated both reduced spending and tax hikes as a follow-through to the budget resolution approved earlier by Congress mandating such actions.

The House, compelled to approve a bill similar to the Senate's in order to comply with the budget mandate, in an election-year gamble has agreed to go directly to conference on the Senate's bill to increase taxes by $98.5 billion over three years and impose major new cuts in Medicaid and Medicare.

The House Energy and Commerce Committee approved a bipartisan plan for cutting $2.1 billion over three years from Medicaid and from federal reimbursements to doctors under Medicare.

The savings fell about $160 million short of the budget instructions, but attempts to make deeper cuts were defeated easily.

"At least we controlled the damage," said Health Subcommittee Chairman Henry A. Waxman (D-CA).

Together with Medicare cuts approved earlier by the Ways and Means Committee, the proposed House cuts in the two programs over three years include $700 million from Medicaid and $12.9 billion from Medicare.

The Senate bill provides many reimbursement restrictions on Medicare and Medicaid, with hospitals hit the hardest. The tax side includes provisions making it tougher to claim medical expenses as deductions and limitations on pension plan contributions aimed at discouraging professionals such as physicians from incorporating.

Following are the principal provisions of the Senate bill dealing with health or health-related matters:

Taxes

- Deductions—Federal income tax deductions for medical expenses would be limited to expenses of more than seven percent of adjusted gross income, compared with the current three percent. The present provision for deduction of 50 percent of up to $150 for costs of medical insurance would be limited to half of $100.
- Pensions—One of the most controversial of the tax features, this provision drops the maximum limits on contributions to corporate defined-contribution and defined-benefit pension plans, to $30,000 a year and $90,000 a year, respectively. At the same time, tax deferred contribution limits for Keogh plans for the self-employed would be liberalized, doubling to $30,000 a year after a phase-in period.
- Federal Employes—For the first time, federal workers would be brought under the Medicare program (but not regular Social Security) and be required to pay the hospital tax, netting the government $2.3 billion in added revenues over the next three fiscal years.

Spending

More than $4 billion a year would be saved by the government for Medicare and Medicaid under a series of provisions that included many sought earlier in the year by the Reagan Administration. Most of the cuts in projected outlays affect the Medicare program, especially hospitals and physicians.

The Medicare spending provisions include:

- Physician Reimbursement—Freezes reimbursement for 1983 and allows only a 5 percent increase for 1984.
- Hospital-Based—Only hospital costs allocated to physicians' services to the hospital would be allowable in determining the hospital's cost reimbursement and these costs would be subject to limits.
- Surgery—Prohibits reimbursement for assistants at surgery in hospitals where a training program exists in surgery except under "exceptional medical circumstances."
- Radiology-Pathology—Reduces reimbursement for inpatient services to 80 percent from the present 100 percent of reasonable charges.
- Peer Review—The Health and Human Services Department would be required to contract for utilization and quality control peer review.
- Hospital Reimbursement—Limits increases generally to 10 percent annually.
- Ancillary—Lab services, X-rays and other ancillary costs would be brought under the Section 223 limits that restrict increases to no more than 108 percent of the costs for these services incurred by other hospitals of the same type.

At about the same time as the tax spending bill came before the Senate, the House Ways and Means Committee approved in a rare closed-door session a budget measure dealing only with Medicare. Many of the provisions were identical or similar to those of the Senate bill, but there were several important differ-

Prepared by the Washington, D.C.
Office of the American Medical Association

ences. The Ways and Means bill set spending targets or caps for hospitals in various groupings, a plan endorsed by the American Hospital Association and the Federation of American Hospitals.

The Senate bill and the Ways and Means measure endorse the concept of prospective reimbursement for hospitals, but offer no specific plans for carrying out the idea, which is under study by the Administration. The House bill calls for a voucher system to allow Medicare beneficiaries to pay for private coverage with a Medicare voucher.

Medicare beneficiaries would be allowed to enroll in qualified Health Maintenance Organizations (HMOs) with the government paying a premium equal to 95 percent of the average area per capita cost for Medicare patients. The HHS Department would have to devise a way to work the HMO plan.

The House bill also provides Medicare reimbursement for hospice services for the terminally ill, one of the few added benefits in the legislation.

Dropped from present law would be the provision requiring a three-day hospitalization before admittance to a skilled nursing facility.

* * * *

Prior to the House's unusual action of going directly to conference on the Senate bill, the American Medical Association testified before a House Energy and Commerce Subcommittee on the Senate proposed Medicare and Medicaid cuts.

The Association favored most of the Senate's Medicaid cuts and opposed most of its proposals to change the Medicare program.

Before addressing the proposed cuts in detail, AMA Executive Vice President James H. Sammons, M.D., urged subcommittee members to "—bear in mind that program changes made with the goal of short-term budgetary savings are not going to solve the long-term needs of this nation. The AMA is planning a comprehensive examination of the long-term problems and has committed itself to work for their solutions. This study is in its initial stages."

In its testimony the AMA opposed the Senate's package of Medicare Part B cuts that would:

- Tighten reimbursement of hospital-based physicians by allowing the Health and Human Services Secretary to determine "reasonable compensation levels" and by allowing reimbursement only for services directly provided to patients.
- Prohibit payments for drugs whose effectiveness has not been established by the Food and Drug Administration.
- Reduce physician reimbursement for hospital outpatient services by an amount reflecting hospital overhead.
- Prohibit reimbursement for assistants at surgery in hospitals with surgery training programs.
- Allow prospective reimbursement of Health Maintenance Organizations for services to Medicare beneficiaries at 95% of the local Medicare average per capita cost. (Ways and Means also has endorsed the latter three proposals.)
- Require review of Medicare services by peer review groups similar to professional standards review organizations or by Medicare carriers.

Dr. Sammons noted that the AMA supported experimentation with the HMO proposal, but expressed concern about a provision requiring HMOs to provide extra benefits to Medicare patients if reimbursement exceeds overall costs. "This will effectively establish two classes of benefits," he said. Instead, savings should be returned to the program to benefit all Medicare recipients.

The AMA supported Part B changes that would reimburse inpatient radiology and pathology services at 80 percent of reasonable charges instead of 100 percent as now allowed; repeal optometric coverage for services to patients after cateract surgery; delay eligibility to the month following a beneficiary's 65th birthday; require employers to maintain private insurance for Medicare-eligible employes; index the Part B deductible to reflect inflation, using the medical component of the Consumer Price Index; and fix the Part B premium as a percentage of program costs.

Dr. Sammons noted, however, that if the current trend of cost increases continues, future beneficiaries could be faced with substantial premium expenses.

Repeal of the nursing differential, advocated by the Senate bill could shift costs to non-Medicare patients, Dr. Sammons told the subcommittee. Commenting on other proposed Medicare cuts, Dr. Sammons said the Association supported imposing minimal co-payments for home health services, as well as eliminating the three-day prior hospitalization requirement for skilled nursing coverage.

The AMA opposed establishing a single reimbursement rate for services provided by skilled nursing facilities and home health agencies and called for further study before eliminating the private room "subsidy."

In conclusion, Dr. Sammons again expressed the AMA's concern about making short-term or piecemeal solutions through the budget process. Referring to the Association's organization of a broad-based study of national health policy, he said, "we expect that the results of this study will suggest major reforms in the government's role in the health care of individual citizens. . . . We hope it will be possible to make the necessary short-term savings and changes now and later more basic long-term changes that will stem from the results of the health policy study."

Marketing Concepts for Medical Practices

LEIF C. BECK, L.L.B., CPBC, GEOFFREY T. ANDERS, J.D., CPA
AND DOROTHY R. SWEENEY

Privately practicing physicians are slowly but certainly turning to marketing and "public relations" as means of building and/or maintaining their patient bases. The concept of having to do more than practice good medicine to protect their patient flow is resisted by many doctors, yet more and more practices are recognizing the need for extra efforts to succeed or simply to maintain patient volumes and doctor incomes. That extra effort is "marketing" in one form or another.

Traditionally doctors have strongly resisted such a concept. Physicians, as well as other professionals, often fail to distinguish marketing from selling or advertising. While the concepts are certainly interrelated, marketing encompasses a far greater territory —market research, pricing, service mix, distribution, and so on.

In fact, both new and established practices have always marketed their services in one way or another. A new doctor in the community is certain to introduce himself or herself to possible referral sources, OB/GYN practices have long offered prenatal education sessions to their patients, and almost every doctor incurs some "professional entertainment" expense each year. These activities have usually been haphazard, lacking a focus aimed at improving practice visibility on a *planned* basis.

Today with the so-called doctor "oversupply," rapidly expanding hospital outpatient programs and aggressive selling by HMOs and large clinics (who often employ experienced marketing personnel) many solos and smaller group practices are feeling pressure on their incomes. Other forward-looking practices recognize that they must begin to act rather than delay and later react to a deteriorating situation. These practices are beginning to organize and expand their patient relations efforts to resist encroachments—to consciously use marketing disciplines.

When well planned and carried out, marketing approaches have had dramatic success. One group of three primary care doctors we know doubled their number of monthly patient visits in slightly less than a year and continue to grow. In other situations a good patient relations program has kept practices intact despite an influx of additional doctors of the same specialty. So it has become clear that whether a practice is looking for more patients or simply seeking to "protect its turf," marketing helps deal with this vexing set of developing problems.

Basic Patient Relations

Before moving to a more in-depth look at some aspects of marketing, any practice would be well advised to consider some all-pervading p.r. basics. It does a practice no good to develop routines to attract new patients or even to attempt strengthening relationships with present patients if it cannot hold those patients' allegiances. A practice housed in a shoddy office, perhaps in which no attention has been paid to patient comfort, is simply fighting itself in terms of patient retention.

The best source of referrals must ultimately be the patients treated by the doctor or group. Busy phone lines, weeks of delay for appointment times and long waits at the reception area, while sometimes unavoidable, must be kept to a minimum to keep patients at all happy. Similarly, smoothly functioning office routines as to insurance matters, billing and delinquent account collections, convenient office hours and helpful parking arrangements are all basic.

Perhaps of greatest importance is the office staff. Friendly, helpful assistants will go a long way in overcoming other p.r. "sins"; no matter how good the service or how bright the office, an antagonistic staff will turn patients away.

Many physicians are unfortunately so consumed with "practicing medicine" that they give no serious attention even to these fundamental concerns of patient

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relations. The pressures now building on private practices will, we fear, eventually cause these doctors to regret the narrowness of their concern. While other more perceptive doctors effectively retain or increase their share of the patients, some will find their practices and incomes lag from their failure to manage these "office matters" in the first place.

Assuming that the basics have received their attention, practicing physicians should focus on other areas of marketing and particularly in the areas of service analysis and market study.

Marketing—An Overview

Marketing in broad terms is an attempt to anticipate and/or shape consumer behavior. It involves determining what patients want or need (either intuitively or by market research) and learning what motivates patient choices. It then concerns developing strategies and routines either for adapting the practice to meet those patient desires or for motivating patients to alter their health care provider choices. Marketing is much easier to talk about than it is to perform.

Medical practice consumers (patients) are as diverse as the people in the community served. Few marketing approaches will appeal to a practice's entire range of patients. Thus a doctor planning strategies should concentrate either on reaching the largest portion of the potential patients or, perhaps better, on focusing specific effort to reach targeted segments of the population. For example, a practice with abnormally high rate of cancellations and broken appointments might adopt routines to correct that problem. Or a practice located off the main roads might specifically work to increase its office's physical visibility.

In developing marketing techniques, the primary question is whether or not the patient will recognize the benefit of using the practices services. Bound up in the broad question is another—does the strategy favorably highlight the "product," the place or the price? If those questions cannot be answered affirmatively, the marketing routine under consideration probably is not worthwhile.

Market Analysis

To begin planning a marketing strategy a practice must know—in market terms—where it is and where it can realistically be in order to decide how to proceed. That calls for a hard look at various facets of the practice, and its present patient base and at the "competition." Obtaining and evaluating the information may be the most difficult task, but various patient relations ideas should readily present themselves upon a conscientious market analysis effort.

In group practices one doctor should be assigned primary responsibility for the effort, using staff help for the nitty-gritty information gathering. In smaller practices more of the details will naturally have to be borne by the physicians themselves. Computerized practices have a definite advantage in the information-gathering stages since standard software packages should permit tallying patients by diagnosis, referral source and the like. Unfortunately, however, many practices which have access to that data have not established routines allowing them to make effective use of the information.

Let us suggest some information items one might initially collect in the marketing analysis stage:

> What is the practice like in terms of specialty, clinical procedures performed, major additional procedures which might be performed, office environment (both the physical facility and, more importantly, the staff-patient rapport), patient and referring doctor patterns, present public relations efforts, etc.?
>
> Who is the competition? Do not list only the other private practices since hospital programs, HMOs and large clinics must also be considered. How do each of those providers compare against your own practice as to quality and in terms of the characteristics listed for your own practice. Defining strengths and weaknesses in comparison with others offering the same care can be most enlightening.
>
> What is the total available patient population in terms of numbers, community, sex, age, third party insurance, number of families, education and the like. Are there any significant growth areas in the community? Is a particular industry or are a few employers key to the community's economics? Much of this information is available from local chambers of commerce and standard referral sources such as "U.S. Abstracts."
>
> Where do the practice's patients presently come from? This question is critical. Unless a practice knows the present sources of its patients, any efforts to attract new patients may simply result in canvassing already covered territory. Breaking down the present patient population by zip code, employer, referral source (patients, doctors, etc.), diagnosis, insurance coverage and other factors permits a doctor or group to compare his or her patient base with the community's demographics. The comparison should be intended to reveal the best approaches to holding the present patients as well as the fertile grounds for obtaining new patients.

As a mild example, we know of a well-established internal medicine subspecialty group which had noted a levelling off of new patients. By tracking the source of new patients on its patient registration sheets, the doctors learned that referrals from present patients were far below normal. With that information before them, the doctors recognized that approaches had to be directed to their existing patients in order to restimulate practice growth.

Comparing where one's patients come from against what patients are available within the service area should help the doctor(s) decide where the practice growth efforts should be aimed. Attempting instead to reach the community at large may be too much a hit or miss approach in which the available time and money is not concentrated on the most likely sources of patients.

Service Analysis

There is another facet of marketing which is often overlooked—structuring the medical services to the desires and needs of the patients. A rheumatology or other internal medicine practice which can provide laboratory facilities for its patients is usually well advised to do so even if the lab runs at a financial breakeven or slight loss. The greater convenience to patients will typically be worth the extra hassle and investment to the doctor(s).

A group practice might consider adding a new physician or other providers to round out the services it provides. Pediatric groups might recruit a pediatric allergist, orthopedic groups can engage a physical therapist, and a general internist might add physicians with subspecialty training. While bigger is not necessarily better, structuring a group to provide "full service" is an attractive patient offering. In some recent situations, groups have expanded both in number of same-specialty doctors and by adding related specialities; their purposes were not only to provide more and better care within the group but also to discourage other doctors from settling in their community.

As a third slant on service analysis, doctors should evaluate their present services in terms of profitability. It is occasionally preferable to refer out some patient-problems and to concentrate on more profitable, perhaps less time-consuming, services. And to the extent the selectivity leads to a reputation, for example that a certain orthopedist "specializes" in total knees or total hips, so much the better.

Patient Relation Strategies

Once the targeted patient group and a marketing strategy have been identified, physicians have a range of possible techniques from which to choose. The choices must be made carefully and with the previously determined goal firmly in mind. Obviously the selected technique should project the practice's image in the community. But in addition to projecting one's general reputation, a well-designed strategy must distinguish the practice from others providing similar services. Some methods will be more effective in strengthening relations with present patients while others will serve primarily as practice builders.

In attracting new patients, many strategies will depend partly or wholly on patient word of mouth. A choice that causes your patients to talk about you can thus be extremely valuable if you have otherwise taken care of the basic previously discussed. Producing a helpful drug information booklet will not help much if your patients will also comment on their hour-long waiting room experiences.

The best public relations approaches put the practice's name before its patients while simultaneously providing a valued service. Patient information booklets and drug effects booklets are good examples. Both of them give needed information and express the doctor's concern for his patients while placing the practice's name in front of its patients—perhaps potential patients as well.

The patient newsletter concept is perhaps the best approach along these lines. If well constructed with interesting, readable items of medical information, patient newsletters satisfy a need for preventive medical information while placing the practice's name in front of patients and prospective patients. Patients receive something beyond the usual fee-for-service doctor procedure—a "valued added" marketing concept.

Patient newsletters are flexible in how they might be used. They can be mailed quarterly or semi-annually to all active and inactive patients, they might instead be enclosed with monthly billing statements or they could simply be available at the front desk and distributed by the receptionist. Some practices send a copy along with a note to each new patient to confirm the scheduled visit and say, "We thought you might find our patient newsletter interesting." This latter approach can help avoid new patient visit cancellations which plague some practices.

Along other lines, a group of pediatricians we know staged "An Evening with your Pediatricians" for patients. The evening of questions and answers was a dramatic success in terms of patient relations and the goodwill established. And it caused patients to talk about the practice.

While on a lower key and less visible to the community, other devices might generate enough patient goodwill to help a doctor or group retain an already established patient population. Quite a few of these "marketing" ideas are really old hat which are not typically considered patient getters—but they nevertheless deserve consideration.

"Loss leaders," for example, are quite common in some practice situations. A doctor might have certain patients return to the office for little or no fee to follow specific conditions. Any lost revenues may later be made up whenever surgical or other more extensive procedures become necessary. A lenient credit and collection policy, while unsound from a financial management standpoint, is a marketing technique. Participation in third party insurance programs such as Blue Shield and Medicare is another means of competing for patients. While these pricing tactics may succeed from a marketing standpoint, other objections have usually caused us to prefer marketing based on quality and service, but now we begin to see good practices taking both tacks.

Other low profile marketing approaches emphasize service. Some practices, for example, will prepare and submit their patients' third party insurance claim forms even if they (the practices) do not participate in those programs; the paperwork simply being handled on the basis of better patient service. Some subspecialty physicians follow up on referred patients with personal phone calls to the referring doctors in addition to their usual letter reports. Similarly, calling patients with laboratory test results is not only more efficient but a helpful convenience for the patients involved.

Conclusion

Adopting certain described marketing techniques may indeed cost money. We would not be surprised to see good practices commit five percent of their gross income to "p.r. and marketing" in the future as the competition among over-supplied doctors continues to increase. The choice should not, of course, always be simply to spend more money for careful cost/benefit analysis is an essential part of marketing. Each doctor and group will and must seek to produce the most patient goodwill for the extra dollars spent on this new overhead category.

State Societies Dues for the Year 1982

Below are the fifty-one State Societies in the order from the highest dues assessment down to the lowest:

1.	District of Columbia	$525.00
2.	Hawaii	435.00
3.	Wisconsin	410.00
4.	Maine	355.00
5.	Alaska	350.00
6.	Idaho	345.00
7.	Colorado	330.00
8.	Minnesota	320.00
9.	Arizona	300.00
10.	Montana	300.00
11.	South Dakota	300.00
12.	Wyoming	300.00
13.	Iowa	275.00
14.	Oregon	275.00
15.	Pennsylvania	275.00
16.	Michigan	260.00
17.	California	250.00
18.	West Virginia	250.00
19.	Nebraska	245.00
20.	New Jersey	245.00
21.	Utah	245.00
22.	Maryland	230.00
23.	Arkansas	225.00
24.	Florida	225.00
25.	Georgia	225.00
26.	Kentucky	225.00
27.	New Hampshire	$225.00
28.	North Dakota	225.00
29.	Rhode Island	225.00
30.	Washington	225.00
31.	Massachusetts	220.00
32.	South Carolina	220.00
33.	Mississippi	210.00
34.	Oklahoma	210.00
35.	Delaware	205.00
36.	Illinois	203.00
37.	Louisiana	200.00
38.	New York	200.00
39.	Texas	200.00
40.	Ohio	195.00
41.	Indiana	181.00
42.	Alabama	175.00
43.	Nevada	160.00
44.	Vermont	160.00
45.	Kansas	150.00
46.	New Mexico	150.00
47.	Virginia	150.00
48.	**Connecticut**	**150.00**
49.	North Carolina	140.00
50.	Tennessee	140.00
51.	Missouri	125.00

The President's Page

Too Much of a Good Thing

In 1910, the Flexner report helped establish the pregraduate and graduate education of the American physician on the basis of a thorough knowledge of the sciences. Medicine became a discipline requiring knowledge of human anatomy, physiology and biological chemistry as well as the basic learning of the pathological disease states and their cure. At long last quackery and therapy based on tribal traditions and witchcraft were laid to rest. The excellence of American medicine today is unchallenged. In the past seventy odd years, enormous advances in the study of the science of health and disease, and the accompanying technological discoveries have made American medicine a leader in the field. Now however, we are asked to re-evaluate the preparation of the young doctor and to question whether the curriculum is too rigid and unidirectional.

It is said that because of very severe competition for admission to American medical schools, the college student has become an extremely narrow minded and even aggressive seeker after excellent grades. He has limited himself in the study of the humanities and has, with his approach to learning, isolated himself from his fellow students. The pre-med student has, in some instances, become so intrusive as to attempt to destroy experiments of his competitors in order to achieve higher class ranking. With the present belief that more is better, the pre-medical student often earns a masters degree or a doctorate in the sciences prior to presenting himself for medical school admission.

If we want to have compassionate as well as learned doctors for our patients in the future, it is obvious that such an approach is self defeating. How can these young physicians learn about human nature if they don't have a foreknowledge of human development and its thinking. It would seem that a pre-medical course of study more rich in the philosophical approaches to living and social behavior would prepare the young physician to meet the complexities of the human condition as it exists today. Facts can always be garnered or retrieved through computers. It has already been proved that preparation for medical schools which consists mainly of courses in the basic sciences does not prepare the aspiring doctor any better for his profession than one which is liberally devoted to the humanities. Perhaps the time has come for a change.

Wiser men have said many times that medicine is an art rather than an exact science. Primed with laboratory findings and computerized information, the young doctor is urged to solve his problem diagnoses using algorithm. Often however the results are misleading because there is another item which is difficult to factor in; namely, the personality of the specific patient being studied. The complexities of the person may be understood only if the student returns to a few basic courses in the humanities. After all, the human condition has not changed that much throughout history.

Gioacchino S. Parrella, M.D.
President

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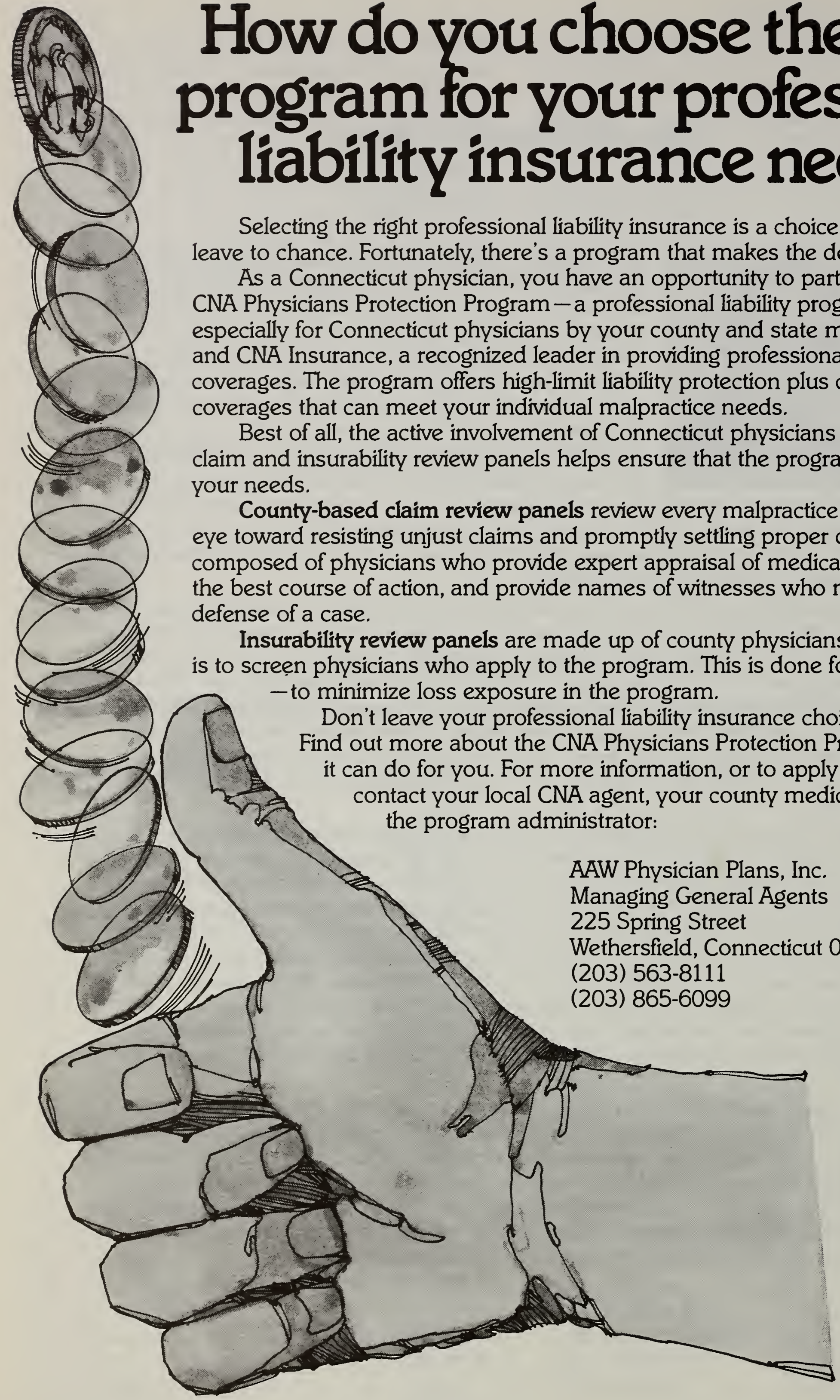

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Reflections from the Dean's Office

Intemperance or Intelligence?

ROBERT U. MASSEY, M.D.

> "Either men will think that the nature of gout is wholly mysterious and incomprehensible, or that a man like myself who has suffered from it thirty-four years, must be of a slow and sluggish disposition not to have discovered something respecting the nature and treatment of a disease so peculiarly his own."

Thomas Sydenham was 59 when he published his "short tract upon the Gout and Dropsey," in 1683. He continued:

> "Gout attacks such old men as, after passing the best part of their life in ease and comfort, indulging freely in high living, wine and other generous drinks, at length, from inactivity, the usual attendant of advanced life, have left off altogether the bodily exercises of their youth."

Disease as punishment for the sins of gluttony, wrath, and lust is an ancient theme; the rational eighteenth century saw it more as the natural consequence of intemperance. Although the hereditary nature of gout had long been suspected, overindulgence and venery, especially for those in mature years, were considered to predispose to its attacks. Anger has more often been associated with sudden death, and Osler wrote of John Hunter's saying "that his life was in the hands of any rascal who chose to annoy and tease him." In his monograph *Angina Pectoris* (1897), Osler gave an account of Hunter's death:

> "As he had himself predicted, death came suddenly, in consequence of a fit of temper at a meeting of the governors of St. George's Hospital, October 16, 1793. When contradicted flatly, he left the board room in silent rage, and in the next room gave a deep groan and fell down dead."

Luxuria, ira, and *gula,* lust, wrath, and gluttony, the first three of the seven deadly sins, are by some called the warm-hearted or disreputable sins. By contrast, the other four, covetousness, envy, sloth, and pride are cold-hearted and respectable. It is the first three with their excess of hot humors which are dangerous to health; the faddish concern with "life style" and how it may cause both sickness and health is nothing new.

James Cadogan in his *Dissertation on the Gout,* written 81 years after Sydenham's Tract, repeats the theme:

> "Whatever doubts may be entertained of moral evils, the natural, for the most part, such as bodily infirmity, sickness, and pain; all that class of complaints which the learned call chronic diseases, we most undoubtedly bring upon ourselves by our own indulgences, excesses, or mistaken habits of life; or by suffering our ill-conducted passions to lead us astray or disturb our peace of mind."

Horace Walpole suffered his first attack of gout at 38 and documented 34 more attacks before he died at the age of 80. He knew of its hereditary nature, but had learned from Cadogan that intemperance, along with indolence and vexation were the true culprits; in a letter to George Montagu he wrote:

> "If either my father or mother had had it, I should not dislike it so much; I am herald enough to approve if it descended geneologically—but it is an absolute upstart in me. . . . They tell me of wine to keep it out of my stomach—but I will starve temperance itself—I will be virtuous indeed; that is I will stick to virtue, tho' I find it is not its own reward."

A century after Cadogan, William Osler in his 1892 *Textbook* advises that "Alcohol in all forms should be avoided," and later, "Gout, in many cases, is evidence of an overfed, overworked, and consequently clogged machine."

Though gouty ancestors and disreputable sins make a risky combination, the suspicion lingers that gout has about it something of respectability and worth. Tuberculosis was the romantic malady of poets and artists; the successful men of affairs were gouty. "It is a disease of the higher classes," wrote Osler and 75 years later James Wyngaarden continued and enlarged upon this pleasing notion:[1]

> . . . . "Formerly a sign of intemperate living, it is today a hallmark of superior intelligence and academic or executive success. Medical students—will be reassured that they are statistically well represented within the hyperuricemic group."

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Connecticut's Wrongful Conception Case II

JOSEPH M. HEALEY, J.D.

Substantial confusion abounds in the medical community concerning the legal liability of physicians and genetic counsellors in cases involving "wrongful conception," "wrongful birth" and "wrongful life." In part, this confusion arises out of the failure of legal and medical commentators to use these terms in a consistent, accurate manner. In part, this confusion arises out of a failure to appreciate the underlying legal principles governing such cases. Regardless of the source of the confusion, it is important for health care providers to understand the range of issues at stake and the process through which public policy in this area is developing. The case of *Ochs v. Borrelli,*[1] described in detail in my last column, represents the first venture by the Connecticut Supreme Court in this area. This decision serves as a stimulus to examine the confusion surrounding this critical area of contemporary medicolegal interest.

The *Ochs* case involved claims that a physician negligently performed a sterilization procedure, resulting in an unplanned pregnancy and birth of a child with a mild orthopedic defect. The jury found for the plaintiff parents and awarded damages. The defendant physician and his professional corporation conceded that negligence had occurred and appealed only the question of damages to the Connecticut Supreme Court. At issue in this case was the factual determination whether the defendants had breached a duty owed to the patient, thereby directly and proximately causing harm to the patient. While the circumstances are somewhat novel, the principles to be applied were the familiar, longstanding principles of the law of torts dealing with the area of negligence. This case was properly characterized by the Court as a case involving "wrongful conception." Distinctions among the concepts of "wrongful conception," "wrongful birth," and "wrongful life," are not always clear, but some clarity is provided by examining who is suing whom, the nature of the duty claimed, and the nature of the claimed breach of duty. It is important to emphasize, however, that such cases usually involve the application of traditional principles of law to novel situations, rather than the application of novel principles of law to novel situations.

This conclusion is reinforced by the manner in which the Connecticut Supreme Court reviewed the issues presented to it in the *Ochs* case. The defendant physician and his professional corporation had questioned both the extent and the amount of the damages awarded at trial. The defendants while conceding their responsibility for the child's orthopedic expenses, denied responsibility for child-rearing expenses. They also claimed that the amount of the award was excessive. In considering these claims, the Connecticut Supreme Court expressed its conclusion that the principle in tort law requiring a tortfeasor to assume liability for all the damages he/she has proximately caused should be applied in this case. To grant an exception to this principle would compromise the constitutional rights of parents to determine whether and when to have children. By applying the traditional rule, the Court applied existing law, rather than depart from tort law principles. Physicians concerned that imposing responsibility for all damages proximately caused by the negligent party would create an unjust result should note that the trial court did not impose upon the defendants the total burden of the economic costs of parenthood. Following the *Restatement (Second) of Torts,* the trial court instructed the jury to reduce potentially recoverable child-rearing expenses by the value of the benefits such as satisfaction, fun and companionship conferred upon the parents by having and raising such a child. The Supreme Court looked with approval upon this case-by-case balancing test.

The *Ochs* case represents a good foundation for further development of public policy in this area within Connecticut law.

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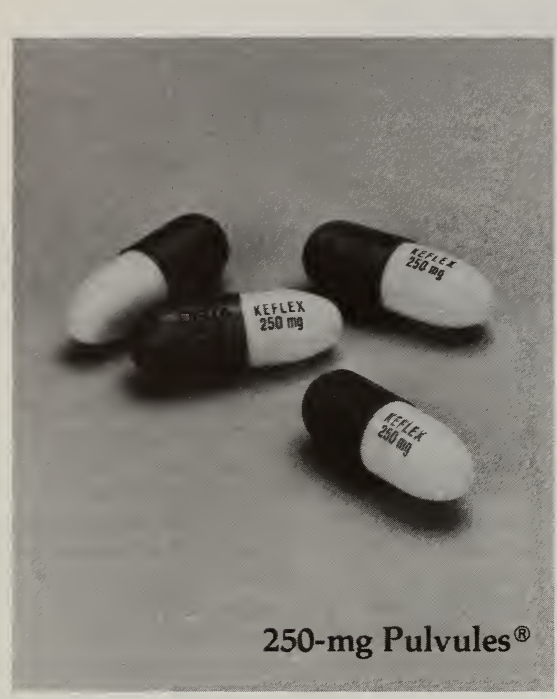

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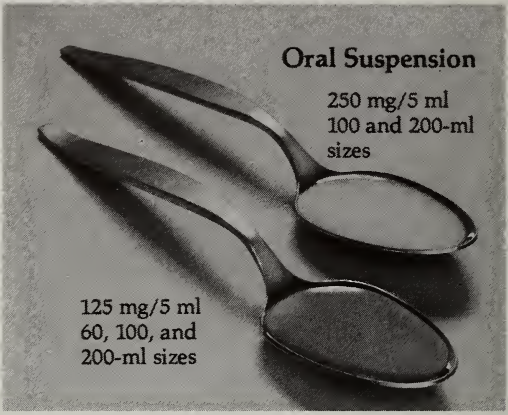

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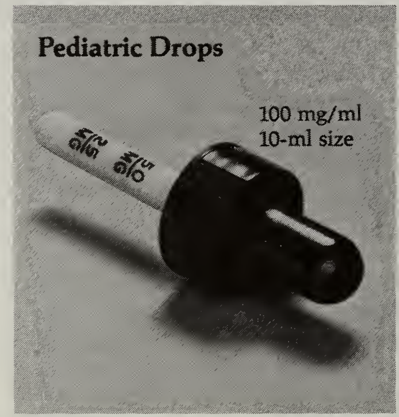

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EDITORIAL

Connecticut Medicine

As the outcome of an action at the semi-annual meeting of the CSMS House of Delegates on November 18, 1981, I was appointed Chairman of an Ad Hoc Committee to evaluate *Connecticut Medicine.* The full report of this Committee was made available in the CSMS handbook at the Annual Meeting of the House of Delegates on May 26, 1982 in Hartford, but I felt that it might be appropriate to try to summarize, as best as possible, some aspects of this review. It must first be noted that the resolution from the House of Delegates directed our attention not simply to the degree of readership of *Connecticut Medicine* but also to its format, its communication with the membership and fiscal matters as well.

While it has been said that "if all statisticians were placed end to end, they would not reach a conclusion," we were nonetheless able to reach some conclusions as to the readership of *Connecticut Medicine.* The surveys of various medical and other hospital groups around the state conformed very closely with the impartial survey taken by Healthcare Communications, Inc. of Pennsylvania, indicating quite satisfactory readership of our Journal. We came out quite favorably compared to many other medical journals, including *New England Journal of Medicine* as well as other specialty and general medical scientific journals. A subsequent more detailed report from Fairfield County following all of the above surveys seems generally to confirm this observation.

Since fiscal matters were at the forefront of criticisms of the Journal, our Committee spent a great deal of time on this point. The matter of the cost per page was looked into, and whether reducing the size of each issue would make much difference. Would our advertising income be affected by such a measure and, furthermore, what would be the fiscal impact of reducing the number of issues published annually? Life members receive the Journal as a right of membership in the Connecticut State Medical Society. If these Journals are not being read, could such life members indicate that they no longer wished to receive *Connecticut Medicine* with appropriate economies thus effected? For every hundred who drop, a saving of about $1,000 in printing and mailing costs would be realized annually should this be decided upon. A group of other items was considered toward reducing costs, including such matters as increasing the subscription price to non-members and libraries to cover the publishing and mailing costs; charging for physician placement ads; consideration of a private publisher, etc. Carrying the CSMS Roster of Members as a separate line item in the budget would eliminate unfair criticism of *Connecticut Medicine* cost since this is not truly a Journal cost.

Suggestions were received regarding the format with the idea that breaking up full pages of print might encourage greater readership. The use of anecdotes, occasional cartoons, subheadings, etc. to "lighten" the overall appearance of the Journal were mentioned. The manner of the presentation of the front of the Journal, table of contents, etc., all were gone into in great depth. The possibility of eliminating or shortening editorials in some of the issues was mentioned.

The Committee report in the handbook further mentions the lengthy discussion regarding the scientific input into the Journal. Special mention was made of the value of the "What's New In . . ." type articles to be sought from Connecticut physicians, or highlights in certain fields to be presented on an annual basis. Trying to include articles of broader interest was brought up at this committee meeting as well.

Difficult as it is to summarize the extensive work done by this committee and by CSMS staff, I hope that I have conveyed the essence of these deliberations.

I think that it is always good to admit when you have made a wrong assumption. I am speaking in regard to the resolution made to review *Connecticut Medicine*

Editorials are expressions of personal opinion and do not necessarily reflect the policies of CSMS.

(that was done at the fall House of Delegates meeting of CSMS). In the hungry search for some economies to be made with our annual budget, *Connecticut Medicine* certainly came under scrutiny. Although I accepted the job as Chairman of this Committee to review *Connecticut Medicine,* my wrong assumption was that little would be learned and little of importance would come out of this exercise. However, positive things did come from this comprehensive review of the many aspects included in the charge to our Committee for this review.

Thanks to the fact that the Committee "did its homework" prior to our meeting, a very lively and enlightening discussion was held. This delved into many areas that I do not believe have been gone into before, not only as to format but also as to possible definite economies. It never hurts to stand back and look at ourselves, and we did indeed get ideas on the type of articles that our doctors would like to see more of in the Journal. I am sure that the editorial staff will keep its eyes and ears open to directions given to us in the future while we ponder upon the matters already under our consideration as the outcome of this survey.

The greatest endorsement of this Journal, I believe, comes from the fact that, despite the sometimes acrimonious debate at the fall meeting, the entire report was accepted without a word at the spring meeting of the House of Delegates.

Stewart J. Petrie, M.D.

Synthesis of Medical Opiates Developed by NIADDK

A research chemist at the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases has developed a process for the total synthesis of medically important opium derivatives.

A significant advance toward the large-scale synthetic manufacture of these drugs, the new method may provide future independence from foreign suppliers of opium, currently the sole U.S. source of medical opiates. In addition, this process will ensure the availability of quantities of unnatural opioids needed as research tools.

The process, invented by Dr. Kenner C. Rice, provides the first relatively simple and practical total synthesis of three important opioid substances, dihydrothebainone, dihydrocodeinone, and nordihydrocodeinone, both in their natural and unnatural forms.

These intermediates can be transformed into natural morphine, codeine, thebaine, and all other medically valuable opiates and their unnatural isomers, using existing practical methods.

Valuable contributions in this area were made by Drs. Henry Rapoport and D.D. Weller of the University of California at Berkely, who described highly efficient conversion of dihydrothebainone and dihydrocodeinone to codeine and thebaine several years ago.

About the same time, Dr. Rice discovered a rapid, high yielding method for synthesis of morphine from codeine, which until then, had been a longstanding problem in the chemistry of the opium alkaloids.

The medical importance of codeine alone, one of the most commonly prescribed analgesic and antitussives in the world, is reflected by its rising annual U.S. production and use, in excess of 55,000 kilograms, and worldwide production, 190,000 kilograms.

In developing an efficient process to synthesize unnatural opiates, Dr. Rice simultaneously obtained a method that could be adapted for the total synthesis of all naturally derived opiates as well.

Synthesis of a number of unnatural opiates, which is being funded by the National Institute on Drug Abuse, is now in progress at Research Triangle Institute under direction of Drs. F.I. Carroll, G.A. Brine and A.H. Lewin. Patent applications protect the United States' interests in the new process, and all rights have been transferred from the Department of Health and Human Services to the Department of Commerce.

Dr. Rice was recently recognized for this invention at the 9th Annual World Fair for Technology Exchange in Atlanta, Georgia, where he was awarded second prize in the Government Division.

The new process is another milestone in a research effort that has spanned centuries, originating with discovery of raw opium as a folk remedy and leading toward the practical total synthesis of its important alkaloids, morphine, codeine, and thebaine, and their derivatives.

Opium, which is the dried sap of the unripe seed capsules of the opium poppy, has been cited since Homeric times as a painkiller. It is believed that its remarkable pharmacological effects were recognized as early as 3500 B.C.

With the evolution of alchemy into chemistry and medicine in the 18th and 19th centuries, scientists began examining folk remedies to determine their active chemical components. Opium was the first material to be analyzed successfully when it yielded crystalline morphine in 1805.

After the isolation of this alkaloid by a German pharmacist, F.W.A. Serturner, scientists were encouraged to isolate and describe other pure components in opium as well as in other plant-based remedies. This effort ultimately led to the chemical characterization and synthesis of other active agents in many naturally-occurring materials.

Linda Cross

Reprinted from *News & Features from NIH,* April 1982.

PHYSICIAN PLACEMENT SERVICE

The Society maintains the Physician Placement Service as a service to the medical profession in Connecticut. Opportunities for physicians to locate in Connecticut will be published as space permits and will be distributed to physicians making inquiries of such opportunities. Information should be sent to 160 St. Ronan St., New Haven, CT 06511 (203-865-6822).

Physicians wishing to establish practice in Connecticut are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.

OPPORTUNITIES FOR PRACTICE

(If no name is listed, contact the Physician Placement Service for more details.)

EMERGENCY MEDICINE

EMERGENCY (SURGICAL) DIRECTOR. Fulltime. To organize and direct the surgical side only of large, busy emergency room in Hartford, CT. Must be capable administrator and teacher but also able and willing to give service to patients when needed. Salary negotiable. Send qualifications and curriculum vitae to: John F. Reed, M.D., Acting Director, Department of Surgery, Hartford Hospital, 80 Seymour Street, Hartford, CT 06115.

FAMILY PRACTICE

Practice opportunity in NE Connecticut town of 8,000 near University of Connecticut. Single present physician retiring within a few years. Hospital assistance in establishing a second practice available. Contact: G. O'Brien, M.D., Windham Community Memorial Hospital, (203) 423-9201.

Beautiful northwestern Connecticut needs the services of two Family Practitioners. Built in referrals and office space available in newly completed medical suite. Attractive financial arrangements offered. Reply to Administrator, Sharon Medical Arts Center, Sharon, Conn. 06069. (203) 364-5161.

GROUP PRACTICE

INTERNIST. Board eligible. Needed immediately to join group of ten Internists at CHCP, a federally qualified prepaid staff model HMO. Also needed is a FAMILY PRACTITIONER to provide care at suburban satellite center in Wallingford, CT. Board eligible. Flexible starting date. CHCP is ten (10) years old and has 30,000 members, with expansion plans underway. Attractive setting, convenient to I-95 and I-91. Affiliated with Yale-New Haven Medical Center. Excellent pay and benefit package. Submit CV and salary requirement to: CHIEF OF MEDICINE, 150 Sargent Drive, New Haven, CT 06511. An Equal Opportunity Employer.

INSTITUTIONAL MEDICINE

STAFF PHYSICIAN. Qualifications: Familiarity with community based and institutional health care delivery systems. Demonstrated interpersonal and interdisciplinary skills. Board certification preferred. Candidates considered for part and full time should indicate preference in their cover letter. Reply by resume by September 1, 1982, to: John M. Stober, Director of Human Resources, The Connecticut Hospice, Inc., 61 Burban Drive, Branford, CT 06405. 481-6231.

INTERNAL MEDICINE

PRIMARY CARE-Internist or FP-for established three man group in upper Fairfield County. Modest guarantee with excellent potential. Looking for enthusiastic individual with concern for life style as well as future. Please contact CSMS, IM/DS.

SURGERY

TRAUMA SURGEON. Large community hospital, Hartford, Connecticut, with university affiliation desires a fulltime trauma surgeon to organize a trauma team of independent surgeons. Must be Board Certified or Board Qualified in general surgery with added education (Fellowship) in trauma. Salary negotiable. Send qualifications and curriculum vitae to: John F. Reed, M.D., Acting Director, Department of Surgery, Hartford Hospital, 80 Seymour Street, Hartford, CT 06115.

PHYSICIANS WISHING TO LOCATE IN CONNECTICUT

ANESTHESIOLOGY

Aug. '82. Presently in practice. Age: 29. Nat'l bds. AB cert. MD, S.U.N.Y. Downstate Med. Int. and Res., Albert Einstein/Montefiore Hosp. (Surgery); Cornell-NY Hospital/Memorial (Anes.). Prefers group or assoc. type practice. Write: Bruce S. Gottlieb, M.D., 2 Hastings Close, Hastings-On-Hudson, NY 10706.

FAMILY PRACTICE

Feb. '83. Age: 28. Nat;l bds. AB elig. MD, Univ. of Rochester, NY; Int. and Res., Univ. of Massachusetts, Worcester. Desires group, assoc. or institutional type practice. Would be most interested in joining a practice especially part time. Write: Phyllis Montellese, M.D., 84 C Wallis Rd., Douglas, MA 01516.

July '83. Age: 51. AB elig. MD, Orenburg, USSR; Int., City Hospital, Orenburg, USSR; RE Res., NY State University (Downstate); Fellowship, Inst. OB/GYN Academy of Medicine, Leningrad, USSR. Prefers group, assoc. or institutional type practice preferably to New York area. Write: Yury G. Krementsov, M.D., 85-II 34th Ave., Apt. 2-B, Jackson Heights, NY 11372.

Upon notice. Age: 29. Presently in practice. Nat'l bds. AB cert. MD, Boston University; Int., New York University; Res., Main Medical Center. Prefers group or assoc. type practice. Write: Jeffrey P. Tannenbaum, M.D., 3 Brookhill Dr., Schenectady, NY 12309.

June '82. Presently in practice. Age: 33. Nat'l bds. Canadian Board Certified. AB elig. MD, McGill Univ.; Int., Royal Columbian Hospital. Presently on staff at McGill University affiliated hospital; Medical Director of Griffith-McConnel Residence & Infirmary for senior citizens; Director of Geriatric Service at Queen Elizabeth Hospital. Prefers solo, group or assoc. type practice in a large community. Write: Michael A. Kazakoff, M.D., 5652 Sherbrooke St. W. #1, Montreal, Quebec, Canada H4A 1W7.

Sept. '82. Age: 56. MD, Univ. of Nebraska; Int. and Res., Santa Barbara Cottage Hospital; Interested in free standing clinic with emergency work. Desires solo, group or assoc. type practice in a small community. Write: Robert W. Delaplane, M.D., P.O. Box 183, Stafford Springs, CT 06076.

Oct. '82. Age: 55. Licensed in Connecticut. AB elig. MD, NY Medical College; Int., Germantown Hospital, Philadelphia, PA; Res., Presbyterian Univ. Medical Center, Einstein Medical Center, Philadelphia, PA. Desires solo practice. Also, will consider Pulmonary Medicine and Anesthesiology. Write: CSMS, FP/JAP.

July '83. Age: 26. Nat'l bds. AB elig. MD, Medical College of Ohio; Int. and Res., UCLA Hospital & Cedars-Sinai Hospital. Group practice in medium size community preferred. Write: Paul W. Brammer, M.D., 2040 West J-13 #33, Lancaster, CA 93534.

INSTITUTIONAL & INDUSTRIAL

Month's notice. Age: 70. Licensed in Connecticut. Presently in practice at a Primary Health Care Facility. AB elig. MD, Downstate Medical Center, NY; Int., Long Island College Hospital; Res., Sea View Hospital, NYC (Pulmonary) and Goldwater Memorial Hospital, NYC (Research). No preference in community size. Write: CSMS, INST./NT.

INTERNAL MEDICINE

Nov. '82. Age: 28. Nat'l bds. FLEX. AB elig. MD, Baylor College of Medicine; Int. and Res., Wadsworth VA, Los Angeles, CA. Desires group or institutional type practice in medium to large size community. Write: David C. Yauch, M.D., 1545 Hudson Rd., St. Paul, MN 55106.

Nov. '82. Age: 30. Nat'l bds. AB elig. MD, Tulane Univ.; Int. and Res., VA Wadsworth Hospital, UCLA. Desires group type practice in medium to large size community. Write: Elaine M. Francis, M.D., 1545 Hudson Road, St. Paul, MN 55106.

PULMONARY. July '83. Age: 29. Nat'l bds. AB cert. MD, Mt. Sinai School of Medicine; Int. and Res., North Shore University Hospital; Fellowship, Albert Einstein College of Medicine, Fellow in Pulmonary Medicine. Desires Group or Assoc. practice in medium to large size community that is in need of a trained Pulmonologist. Write: Lloyd G. Goldfarb, M.D., 43-35 195th St., Flushing, NY 11358.

July '83. Age: 35, Nat'l bds. AB elig. MD, New Jersey Medical School, Newark; Int. and Res., UCLA-San Fernando Valley Program, Sepulveda, CA. Prefers medium to large size community. Looking for an established group (either subspecialty or primary care) needing a General Internist. Write: Anthony D. Ciardella, M.D., 550 Fermoore St., San Fernando, CA 91340.

CARDIOLOGY. July '83. Age: 27. Licensed in Connecticut. Nat'l bds. AB cert. MD, GSVM Medical College, India; Int., RI-RIII MED, McMaster University, Canada; Res., Greenwich Hospital (Yale Univ.); Fellowship, Medical College of Wisconsin, Milwaukee. No preference to type or size of practice. Write: Sanjay Singh, M.D., 2092 S. 102 St., #214, West Allis, Wisconsin 53227.

HEMATOLOGY/ONCOLOGY. July '83. Age: 29. AB cert. MD, Medical College, Baroda, India; Int., LaGuardia Hospital, NY; Res., Beekman Hospital, NY; Fellowship, LIJH Medical Center, NY. Prefers a practice in Hematology/Oncology in a community of 50,000 or so. Write: CSMS, IM/ABS.

HEMATOLOGY/ONCOLOGY. July '83. Age: 30. Nat'l bds. AB cert. MD, Pennsylvania State; Int., Berkshire Medical Center of Univ. of Massachusetts; Res. and Fellowship, Georgetown Univ., Washington, DC. Interested in teaching in a medium to large size community. Write: CSMS, IM/EMB.

CARDIOLOGY. July '83. Age: 28. Nat'l bds. AB cert. MD, Johns Hopkins University; Int. and Res., University of Maryland Hospital; Fellowship, Brown University. Desires group or assoc. type practice in medium to large sized community. Write: Daniel I. Woronow, M.D., 303 Greenwich Ave., #A-304, Warwick, RI 02886.

NEUROLOGY

August '82. Age 34: Presently in practice. Nat'l bds. AB cert. MD, New Jersey Medical School; Int., Washington Hospital Center, Washington Hospital Center, Washington, DC; Res., New Jersey Medical School Affiliated Hospital; Fellowship, Massachusetts General Hospital. Prefers solo or group practice in a medium size community. Write: Richard F. Tonzola, M.D., 210 Makefield Rd., Morrisville, PA 19067.

July '83. Age: 30. Licensed in Connecticut. Presently in practice. Nat'l bds; AB cert. MD, Albert Einstein College of Medicine, Bronx, NY; Int. and Res., Naval Hospital, Bethesda, MD. Prefers solo, group or assoc. type practice. Wishes to return to home town. Is experienced in EMG and EEG. Write: Andrew J. Dutka, M.D., Box 47 Co's Mailroom, Naval Regional Medical Center, San Diego, CA 92134.

OBSTETRICS & GYNECOLOGY

Available within 60 days. Age: 36. Presently in practice. Nat'l bds. AB elig. MD, New Jersey College of Medicine; Int. and Res., University of Connecticut. Prefers solo, group, assoc. or institutional type practice. Write: Richard Malafy, M.D., 8716 E. Spanish Barb, Scottsdale, Arizona 85258.

July '83. Age: 32. FLEX. AB elig. MD, University of Guadalajara, Mexico; Int., 5th Pathway College of Medicine & Dentistry; Res., State University of NY, Syracuse, NY. Prefers group practice. Write: Gary C. DeGrande, M.D., 201 Seeley Rd., H-3, Syracuse, NY 13224.

OCCUPATIONAL MEDICINE

Immediately. Age: 53. Licensed in Connecticut. FLEX. AB elig. MB. B.Ch., University of Witwatersrand Medical School, Johannesburg, South Africa. Prefers Institutional/Industrial type of practice. Accredited Specialist in Occupational Medicine by Joint Committee on Higher Medical Training, Royal College of Physicians, London, England, 1978. Contact: CSMS, INST/HCL. (to be forwarded)

OPHTHALMOLOGY

Jan. '83. Age: 31. AB cert. MD, Int. and Res., University of Manitoba, Canada; Prefers solo, group or assoc. type practice. Would prefer to limit practice to Adult General Ophthalmology with Glaucoma subspecialty. Write: CSMS, OPHTH/DNM.

ORTHOPEDIC SURGERY

Late '82. Age: 36. Presently in practice. Nat'l bds. AB cert. MD, Georgetown University; Int. and Res., Lenox Hill Hospital, NY and Georgetown University Hospital. No preference to type or size practice. Write: Christopher J. Cassels, M.D., 1390 Calle Pecos, Thousand Oaks, CA 91360.

PEDIATRICS

July '82. Age: 34. Licensed in Connecticut. FLEX. AB elig. MD, Univ. de Liege, Belgium; Int. and Res., Univ. of Connecticut. Is most interested in either Multi-specialty or a group or joining an exchange solo practice. Write: Thomas Eder, M.D., 40 Woodland Rd., Bloomfield, CT 06002.

PHYSICAL MEDICINE AND REHABILITATION

Immediately. Age: 39. AB cert. MD, University of Padua, Italy; Int., University of Padua affiliated hospitals; Res., NY Hospital, Cornell Medical Center and Memorial Sloan Kettering Hospital; Fellowship, Metropolitan Hospital Center. Prefers any type of practice except solo. Write: CSMS, PHYS. MED./SBG.

SURGERY

July '83. VASCULAR & GENERAL. Age: 32. FLEX. AB elig. MD, Guntur Medical College, Gunter, India; Int., Illinois Central Hospital, Chicago; Res., Sinai Hospital of Baltimore and Fairview General Hospital, Cleveland; Fellowship, Arizona Heart Institute, Phoenix. Prefers solo, group or assoc. type practice. Write: Rao S. Bhatraju, M.D., 10030 N. 43rd Ave., #1066, Glendale, AZ 85302.

UROLOGY

July '83. Age: 33. AB elig. MD, Tirunelveli Medical College, India; Int., Brooklyn Jewish Hospital, NY; Res., Brookdale Hospital, NY (Surgery); State Univ. of NY at Buffalo, (Urology). Prefers solo or institutional type practice. Write: V.P. Nagarajan, M.D., 61 Maple Court, #4, Synder, NY 14226.

July '83. Age: 29. Nat'l bds. AB elig. MD, Cornell Medical College; Int., Mt. Sinai Hospital, NY; Res., NY Hospital—Cornell Medical Center. Prefers solo, group or assoc. type practice. Write: Arthur Israel, M.D., 435 E. 70th St., Apt. 23-J, New York, NY 10021.

Mesenteric Venous Infarction: Presenting as Upper Gastro-Intestinal Bleeding

JOHN C. RUSSELL, M.D. AND G. PETER BLOOM, M.D.

ABSTRACT: A case of primary mesenteric venous thrombosis presenting as acute gastro-intestinal hemorrhage is presented. Characteristic radiographic findings include submucosal edema on plain or contrast films, a normal mesenteric arteriogram, and a delayed or absent venous phase. Once diagnosed, the treatment is surgical, with resection of non-viable bowel, peri-operative anticoagulation with heparin, and conversion thereafter to long-term coumadin therapy because of the high risk of recurrent thrombosis. Associated endoscopic lesions may be misleading, and delay recognition and treatment of underlying mesenteric venous thrombosis.

Introduction

Primary mesenteric venous thrombosis is well-recognized as a cause of intestinal infarction. It is usually characterized as diffuse abdominal pain or distension, which may progress over days prior to diagnosis. An unusual case of primary mesenteric venous thrombosis presenting as acute upper gastro-intestinal hemorrhage was seen recently. In such cases, upper gastro-intestinal endoscopy must be interpreted with caution. Associated endoscopic lesions, such as acute erosive gastritis or duodenitis, may actually delay diagnosis and treatment of the more important vascular disorder.

Case Report

L.B., a 70 year-old white male, presented with a four day history of upper abdominal pain, fullness, and anorexia. On the morning of admission, he had one episode of coffee ground vomitus, followed by a melanotic stool. He denied a history of previous ulcer symptoms, hematemesis, hematochezia, or melanotic stools. He also denied alcohol intake, aspirin, steroids, or anti-inflammatory drugs. He had no relevant past medical history. He underwent an appendectomy at the age of 18. He did not smoke and took no medications.

Physical examination at the time of admission was unremarkable. In specific, the abdomen was soft, non-tender with normal bowel sounds. Liver and spleen were not palpable; there were no abdominal masses. Rectal examination revealed no masses or tenderness; stool was strongly positive for occult blood.

Pertinent laboratory data included hematocrit 49.1, WCB 15,400 with 5 bands, 83 polys, 4 lymphs, 8 monos, and a normal platelet estimate. PT was 13 seconds, PTT 23 seconds, Sodium 140, Potasium 4.2, blood glucose 201, BUN 18, and amylase 3. Chest x-ray was within normal limits. Supine and upright films of the abdomen revealed only a nonspecific gas pattern. Electrocardiogram showed sinus tachycardia. Gastric aspiration revealed coffee ground material, hematest positive, which initially cleared with saline irrigation. Subsequently, gross blood drained continuously through the NG tube.

Therapy was begun with Cimetadine and antacids to titrate gastric PH above 6.0. Hematocrit rose to 50.2, then slowly dropped over 48 hours to 32. No transfusions were administered. WBC rose to 21,500. Temperature rose from 100.2 at the time of admission to 101-102 degrees Fahrenheit. Subsequent abdominal examinations revealed progressive distention and periumbilical tenderness. Upper gastro-intestinal endoscopy revealed antral gastritis, and moderate erosive duodenitis, although active hemorrhage was not seen.

On the third hospital day, abdominal ultra-sound showed ascitic fluid, and on diagnostic pericentesis serosanguinous fluid was obtained. The ascitic fluid amylase was 3, and no organisms were seen on gram stain of the ascitic fluid. An emergency upper GI series with small bowel follow-through was obtained to evaluate possible proximal "closed-loop" bowel obstruction. It showed edematous proximal small bowel, consistent with intestinal ischemia (Figure 1). Immediately thereafter, a superior mesenteric angiogram revealed a patent superior mesenteric artery, but with a markedly prolonged venous phase; no large veins were seen by 45 seconds (Figures 2,3).

The patient was then taken directly to the operating room. At operation, small bowel infarction, secondary to mesenteric venous thrombosis was found, with approximately 3 feet of non-viable proximal jejunum beginning 18 inches beyond the ligament of Treitz. There was clear demarcation of non-viable bowel. The mesentery was thickened with good palpable arterial pulsations. On sectioning, clot extruded from the mesenteric veins. Several thrombosed veins were also noted in the omentum. The spleen was normal in size. On palpation of the porta hepatus, there was a cord-like thickening, but the portal vein was not directly visualized. Small bowel resection with anastomosis was carried out. Postoperatively, continuous intravenous heparin infusion, with 500 units per hour, was begun immediately, and after 24 hours, this was gradually increased to maintain the PTT between 50 and 60 seconds. Intravenous chloramphenicol and gentamycin therapy was started intra-operatively, and continued for seven days. Warfarin therapy was begun on the eighth postoperative day. The patient's ileus slowly resolved, with a normal-appearing upper GI and small bowel examination on the 17th postoperative day. He was discharged home on the 27th postoperative day on Warfarin therapy. Postoperative investigation of anti-thrombin III activity revealed a level of 64% (normal 84 to greater than 100%).

JOHN C. RUSSELL, M.D., Coordinator of Surgical Education, Saint Francis Hospital and Medical Center, Hartford, CT; Assistant Professor of Surgery, University of Connecticut School of Medicine, Farminton, CT. G. PETER BLOOM, M.D., Assistant Professor of Surgery, University of Connecticut School of Medicine, Farmington; CT; Assistant Staff, Department of Surgery, Hartford Hospital, Hartford, CT.

Reprint requests to: The Department of Surgery, Saint Francis Hospital and Medical Center, 114 Woodland Street, Hartford, CT 06105 (Dr. Russell).

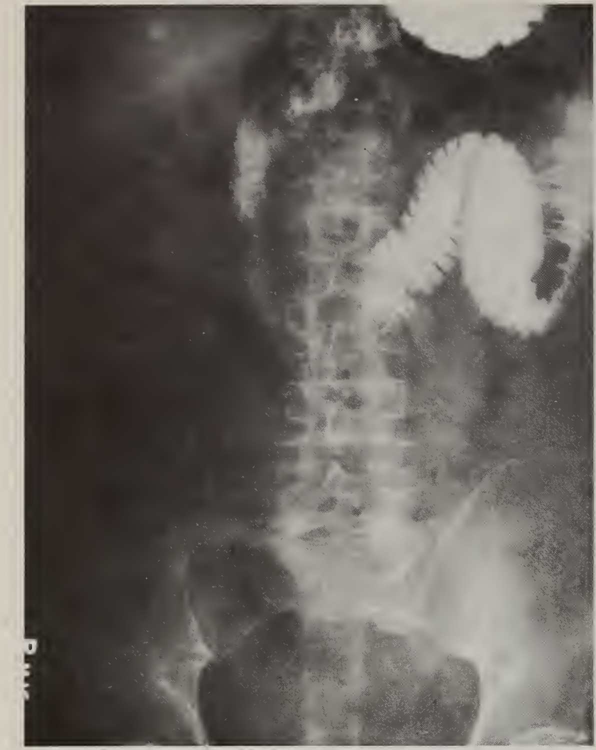

Figure 1
Early film of small bowel series showing submucosal edema and thumbprinting of the small bowel, just distal to the ligament of Treitz.

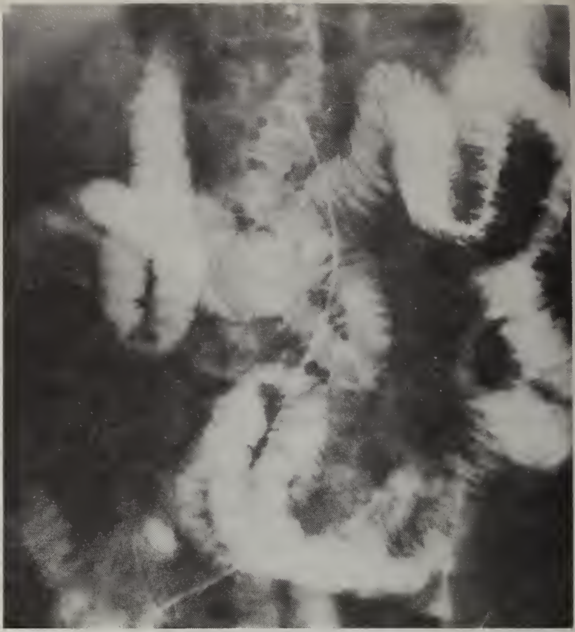

Figure 2
Superior mesenteric arteriogram showing normal arterial vasculature.

Discussion

Mesenteric venous thrombosis has been recognized since 1935 as a distinct clinical entity.[1] 45 to 74% of cases of mesenteric venous occlusive disease are secondary to underlying liver disease with cirrhosis, portal hypertension, hematologic disease, migratory thrombophlebitis, tumor, drug reaction, hypo-perfusion syndrome, endotoxemia, median arcuate ligament syndrome, infarction due to surgical procedures or intra-abdominal sepsis.[1-3] Primary or idiopathic mesenteric venous thrombosis often occurs in young people, and has been frequently associated with hyper-coagulable states such as anti-thrombin III deficiency, and oral contraceptive use.[4-9]

Because of its relative rarity, primary mesenteric venous thrombosis frequently is mis-diagnosed.[10,11] Most commonly, there is a history of poorly localized, low-grade abdominal pain, non-colicky in nature.[2,11,12] Often, there is a delay of several days before medical attention is sought.[11,12] Anane-Sefah et al. report an average time delay of 3.5 days from admission to laparotomy, with only 4 of 15 cases correctly diagnosed preoperatively.[1]

Primary mesenteric venous thrombosis, usually involving a segment of the small intestine, causes third space fluid loss into the bowel lumen, wall, and mesentery. At surgery, the edematous bowel appears blue-black from venous congestion. The mesentery is thickened, and clot extrudes from the mesenteric veins when transected.

Both plain and contrast studies of the GI tract may suggest a preoperative diagnosis of mesenteric venous thrombosis and bowel infarction.[13] Affected segments of small bowel may become dilated, and the bowel wall thickened as submucosal edema and hemorrhage lead to "thumbprinting." Small bowel series will confirm submucosal edema and local ileus (Figure 1). Arteriography shows normal arterial vasculature, but the venous phase may be delayed, or even non-visualized (Figures 2, 3).[10,13] Characteristic findings of prolonged mesenteric activity may be identified on 99^{m}Tc sulfer-colloid scintiangiogram.[14] Mesenteric arteriography may also be important from a therapeutic standpoint, to identify preoperatively arterial insufficiency which may require embolectomy, thrombectomy, or bypass.

Upper gastro-intestinal hemorrhage has not been previously reported as a presenting symptom for mesenteric venous thrombosis. As in this case, gastroduodenoscopy may be misleading. The presence of large amounts of non-clotting blood, draining through the naso-gastric tube, suggests the reflux of defibrinated small bowel blood, rather than active hemorrhage from acute erosive gastritis or duodenitis.

Mesenteric venous thrombosis requires resection of non-viable bowel. In retrospective reviews, anti-coagulation without surgical resection carries nearly a 100% mortality.[2,7] There is controversy regarding the appropriate margins of surgical resection, as mesenteric venous thrombosis may extend to areas where the

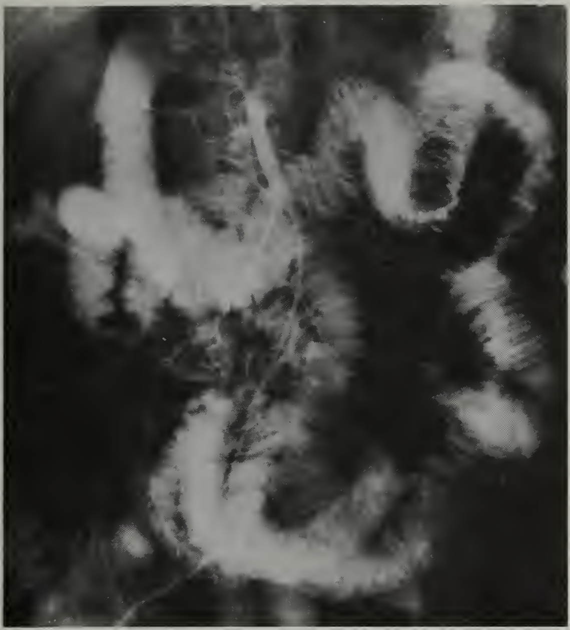

Figure 3
Delayed films of superior mesenteric arteriogram. There is no visualization of major veins at any time, suggesting mesenteric venous thrombosis.

bowel itself appears viable. Naitove and Weismann have advocated resection based on the extent of mesenteric disease.[2] A more conservative resection, based on the appearance of the bowel, with postoperative heparin therapy, has been shown to provide good results.[10,15] Exteriorization of transected ends with secondary anastomosis,[12] or "second-look" operations at 24 to 48 hours, may be advisable in selected cases.[10,16] Intra-operative Doppler ultrasonography, measuring arterial flow signals along the anti-mesenteric surface of the bowel,[17] or examination of the bowel under ultra-violet light after intravenous infusion of fluorescein,[18] may be more accurate than clinical assessment in determining intestinal viability.

Because of the documented high incidence of recurrent thrombosis full postoperative heparin therapy, with subsequent conversion to Warfarin therapy has been advised. There is little objective data on the value of Dextran or anti-platelet agents in these patients. Postoperative mortality in patients not given anti-coagulants is 50-63%, compared with 0.35% among patients anti-coagulated.[2,10,15] The role of venous thrombectomy and thrombolytic therapy remains unresolved.[3]

Summary

Mesenteric venous thrombosis should be considered in the differential diagnosis of unexplained abdominal pain, distention, or bleeding, especially in patients with an underlying hypercoaguable state. Plain and contrast films of the abdomen may suggest submucosal edema, and arteriography may show a marked delay or absence of venous filling. Gastroduodenoscopy may be misleading, and thus, should be interpreted with caution. Drainage of defibrinated blood may suggest reflux of sloughed ischemic mucosa. An aggressive surgical approach, with resection of clearly non-viable bowel, postoperative heparin and Warfarin therapy, and early re-exploration with clinical signs of extension of venous infarction is advised.

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Mediastinal Teratoma: A Clinicopathologic Review

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ABSTRACT: Teratoma comprises ten to twenty percent of all mediastinal tumors and is benign in eighty to ninety percent of cases. Clinical presentation varies with location and physiologic activity of various tumor elements. X-rays and computerized tomograms may be useful in making a pre-operative diagnosis. Early surgical intervention is justified.

Introduction

Clinical presentations of the mediastinal teratoma may vary. The unusual symptomotology and clinical findings can sometimes cause confusion with another disease entity. Herein we report a patient with a benign mediastinal teratoma which had ruptured into the adjacent lung, and mimicked a pulmonary mass with central cavitation and an air-fluid level. A review of the clinicopathologic features of the mediastinal teratoma, including some less known complications, is presented.

Case Report

A 27-year-old female was hospitalized with a complaint of a cough of four months' duration, productive of foul sputum. There were no associated chills, fever, night sweats, hemoptysis, anorexia, weight loss, or chest pain. Past medical, family and travel history were noncontributory.

Medical attention had been sought shortly after the onset of symptoms. Chest x-rays at that time revealed a left perihilar cystic lesion with an air fluid level. It measured four centimeters in diameter and appeared to be situated in the lingula on PA and lateral chest tomograms. Fungal skin tests and antibody titres were negative. Blood chemistries and CBC were normal. Bacterial and fungal cultures of the sputum yielded no pathogenic organisms. The patient was treated with large doese of oral penicillin for four weeks with some symtomatic relief but no change in the chest x-ray

A subsequent bronchoscopy revealed erythema of the entire left upper lobe bronchial tree. There was marked edema of the lingular segments but no endobronchial lesion was found. Bronchial washings and brushings revealed no malignant cells, and cultures of bronchial aspirates yielded no growth. Because of persistence of the lesion, the patient was referred for surgery.

Her physical examination was unremarkable except for a pleuropericardial friction over the anterior left chest. A cystic mass with an air fluid level was seen on chest x-ray. (Figure 1A and 1B)

Left thoracotomy revealed a cystic anterior mediastinal mass adherent to the pericardium and lingula. There was a small communication with the lingular bronchus. The mass was resected without difficulty and the patient made an uneventful recovery. The specimen consisted of 5 cm. irregular cyst with fibrous surface attachments. (Figure 2A and 2B) The inner lining had the appearance of skin with blonde hairs projecting into the lumen. Microscopic examination revealed elements of epidermis, sweat and sebaceous glands, hair follicles, smooth muscle and cartilage as well as respiratory and pancreatic epithelia. Focal remnants of mature thymic tissue were seen at the periphery. Appearance was that of a benign cystic teratoma. (Figure 3A and 3B)

Discussion

Teratomas are germ cell neoplasms showing a variety of tissue types. They occur most commonly in the gonads, although they have been found in practically all body regions excepting the extremities.[1] Thoracic teratomas are usually situated anteriorly in the mediastinum, from diaphragm to thoracic inlet. Rarely, they may be found in other areas of the mediastinum or in the lung itself.[2, 3]

Mediastinal teratomas are found in all age groups, but more than two thirds will present in the first three decades. Peak incidence is in the third decade.[4] In reviews of over one thousand cases each of mediastinal neoplasm, Wychulis *et al.* found 9.3% teratomas and Oldham reported a figure of 17%.[5,6] Job *et al.* reported four teratomas out of 109 mediastinal tumors in pediatric patients.[7] The frequency of benign mediastinal teratoma is about equal for males and females, whereas the malignant counterpart is found predominantly in males.[4]

Grossly, the teratoma is typically a cystic tumor with a smooth surface. Multilobular and/or solid tumors are more likely to be malignant. Microscopic examination should reveal elements from several germ cell layers,

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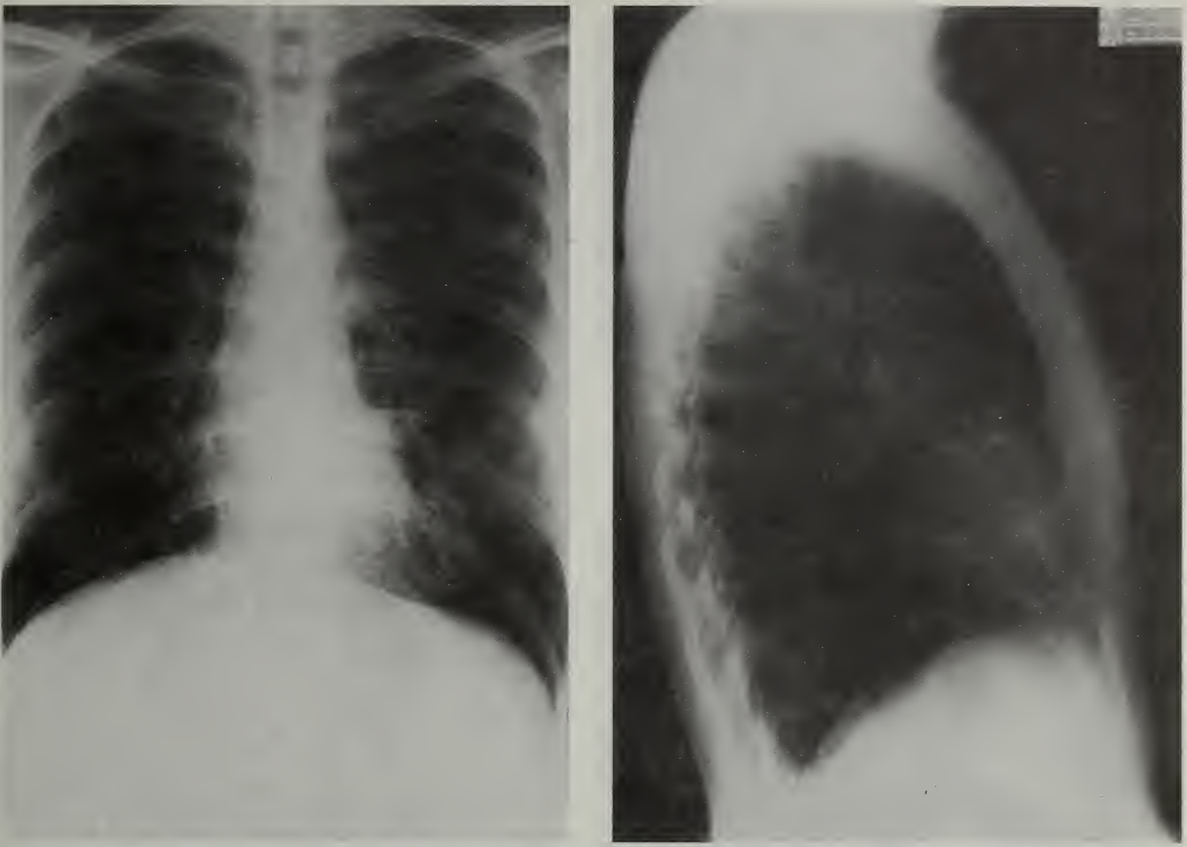


Figures 1A and 1B

Chest x-rays in the PA and lateral projectors show a four centimeter cystic mass in the lingular area with an air fluid level.

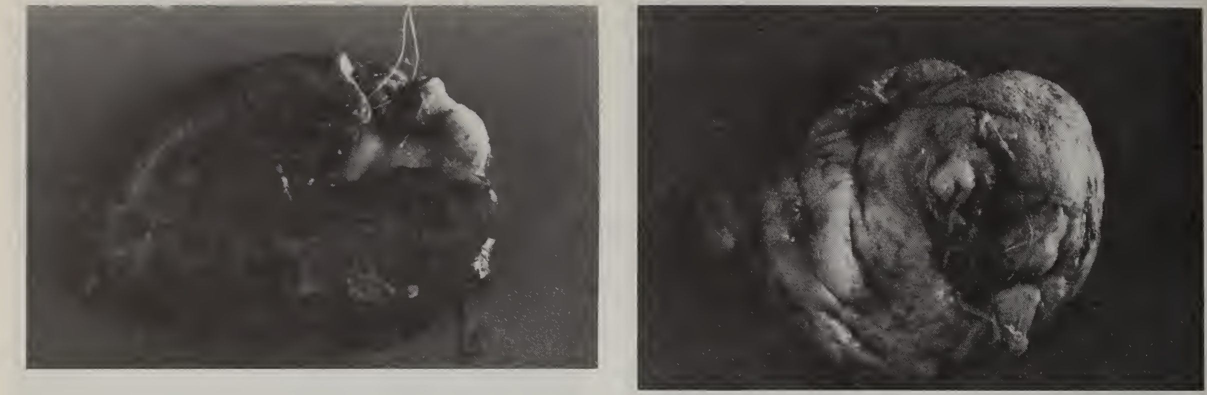
often with varying degress of differentiation, maturation and organization. Ectodermal elements usually predominate. Pancreatic tissue is seen more frequently in mediastinal than in gonadal or other teratomas and is often associated with intestinal or gastric mucosa. Physiologic activity may be present (see below). Residual thymic tissue is found adjacent to teratomas in a large number of cases, even when the tumor is intrapulmonary.[3]

The reported incidence of malignancy in mediastinal teratoma varies from five to twenty percent.[8-10] The malignant component is usually squamous or adenocarcinoma, but seminoma, choriocarcinoma and undifferentiated forms are also seen. Fifty percent of patients with malignant tumors have extrathoracic metastases at the time of diagnosis.[5] In a teratoma, the presence of immature elements may suggest a higher malignant potential of the tumor.[11] Lie has emphasized the need for multiple histologic sections to rule out foci of malignancy in otherwise benign appearing tumors.[12]

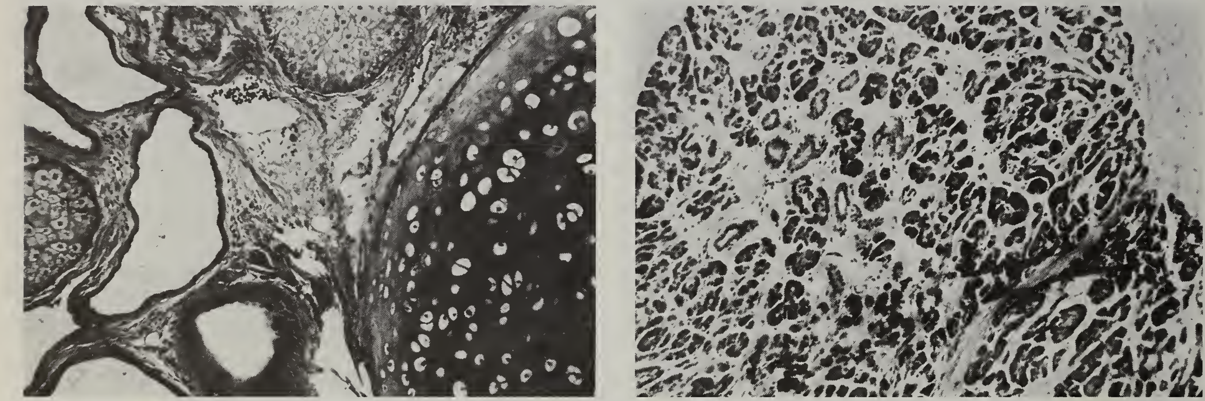
The etiology of these histologically unusual neoplasms has been the subject of much speculation. The frequent finding of associated thymic tissue raises the possibility of faulty embryogenesis in the thymic anlage, but not every teratoma is adjacent to recognizable thymus and it is, therefore, difficult to prove that every tumor is of thymic origin. An alternative theory is that of the "fetus in fetu," or an abortive attempt at twinning.[10] An increased incidence of twinning has been observed in families of patients with teratomas.[9] This theory is weakened, however, by the lack of true organs or vital structures within the tumor. Other explanations involve the migration of the germ cells in the yolk sac during embryonic life and their ultimate misplacement.[13,14] The nuclear sex of teratomas has been observed to be consistently female in females, but only fifty percent in males.[11]

Clinical presentation of mediastinal teratomas is symptomatic in about 65% of cases and an incidental x-ray finding in about 35%. Most teratomas discovered incidentally are benign.[6] Symptoms vary with the location and physiologic activity of the tumor. Nonspecific pressure symptoms including chest pain, cough, and pulmonary consolidation due to bronchial obstruction are frequently seen.

The teratoma may be unique among benign neoplasms in its propensity to produce fistulae to adjacent structures. The usual path is to the bronchus, and a patient may present with the diagnostic symptoms of trichoptysis. Fistulae to the pericardium, pleural cavity,



Figures 2A and 2B
Outer view of the mature cystic teratoma (A) shows an area of fistula formation in the upper right marked with a suture. The internal surface (B) shows a skin-like lining with protruding hairs.



Figures 3A and 3B
A conglomerate of sebaceous and apocrine glands and cartilage (A) are seen on microscopic section. Mature exocrine pancreatic foci (B) are also present. (Hematoxylin—eosin, X100).

aorta, vena cava, cervical skin and esophagus have all been reported.[15] The tendency to fistulize may be due to local rupture and subsequent tissue lysis by tumor elaborated pancreatic enzymes. This phenomenon is well known in benign teratomas in other locations.[16] Sommarlad *et al.* have reported two cases of cervical sinus tracts from mediastinal teratomas which failed to yield organisms on culture. Sinus fluid was rich in amylase in both patients. The authors postulated that the tracts were formed by enzymatic digestion.[17] The less differentiated state of the epithelia in teratocarcinomas would be less likely to have exocrine function and in fact they form fistula tracts only rarely as compared to the benign tumors.

Teratomas may rarely become infected, and if fistulae are present, empyema may follow. A bronchial communication can result in a cough with copious foul sputum, clinically simulating a lung abscess. Hemorrhage into a cystic tumor may occur with or without infection.

Physiologic activity may be endocrine as well as exocrine with production of insulin and thyroid hormone both reported.[18, 19] Malignant teratomas in the mediastinum may produce chorionic gonadotrophin and/or alpha fetoprotein, although these are not specific markers for this tumor.[20]

Intrapericardial teratoma has been reported about thirty times. Lubin *et al.* review this entity, which may be fatal when associated with effusion and acute tamponade.[21] The tumor is usually pedicled to the adventitia of the ascending aorta. Twenty-nine of thirty cases were benign. The condition may masquerade as congestive heart failure or respiratory distress syndrome of another etiology.

Pericardial effusions have also been associated with extra-pericardial tumors that fistulize to the pericardium.[22] As with the intrapericardial lesion, acute tamponade may develop. The effusion is usually sterile.

Rosenbluth *et al.* have reported a myocardial abscess secondary to a supportive mediastinal teratoma. No organisms were seen on gram stain and the tumor was benign.[15]

A teratoma compressing the right atrium has been reported by Thompson *et al.* This patient had been diagnosed initially as having idiopathic right atrial enlargement. Angiography and resection established the correct diagnosis.[20]

Acute respiratory distress may result from spontaneous rupture of a mediastinal teratoma into the pleural cavity.[23] Pneumothorax has been known to result from bronchial obstruction by this tumor, probably secondary to air trapping and alveolar disruption.[24]

Neonatal respiratory distress syndrome has been seen with mediastinal teratoma.[25] The x-ray findings were compatible with a large thymus. The resected specimen showed a teratoma with large cysts containing cerebrospinal fluid. The cysts were lined with secretory choroid plexus and had been enlarging over the first 36 hours of extrauterine life.

Honicky and dePapp have reported an asymptomatic child with hypoglycemia and inappropriately high levels of immunoreactive insulin. The etiology was a benign mediastinal teratoma containing abundant islet cell tissue, and resection effected a cure.[18]

Given this spectrum of clinical presentations, subtle x-ray signs may be of great value in making a correct pre-operative diagnosis. The differential diagnosis on x-ray may include thymoma, intrathoracic thyroid pericardial cyst, lipoma, lymphangioma, parathyroid tumor, aneurysm, or cardiac chamber enlargement.

Radiolucency in this tumor occurs with abundant fat content and a faint fat-water margin may be seen.[26] Solid portions of the tumor may show one or more bones, occasionally with adjacent teeth. Air fluid levels within a teratoma suggest perforation into the bronchial tree, but may be present without any demonstrable fistula. Calcification is seen in benign and malignant lesions and is not a reliable indicator of histology.[9] About twenty-five percent of benign teratomas contain x-ray detectable calcifications.[5] Size and cystic configuration are also unreliable signs of a malignant tumor, although the latter tend to be solid more often than benign forms and may lack other distinctive features. Both benign and malignant tumors may be confused with bronchogenic carcinoma. Likewise, they may pulsate on fluoroscopy due to adhesions to the heart and great vessels, leading to mis-diagnosis as aneurysms. Pantoja *et al.* have emphasized the usefulness of induced pneumomediastinum and pneumopericardium in x-ray diagnosis.[1] A mass pedicled to the chest wall or mediastinum and outlined by this technique strongly suggests the diagnosis of teratoma.

Recently, computerized tomography of the chest has been found useful in diagnosing mediastinal teratomas. This technique accurately differentiates fatty or sebaceous tissues from other media.[2]

The treatment of benign mediastinal teratoma is surgery. A tumor presenting anteriorly may be resected via median sternotomy or anterolateral thoracotomy. Bilateral anterior thoracotomy or traverse sternal split may be required for large tumors involving both hemithoraces. The thymus or its remnant should be removed with the tumor to insure total extirpation. Pulmonary wedge or lobar resection may be required if fistulization has occurred. The prognosis following adequate resection is excellent for benign tumors. The malignant counterpart, however, often has metastasized at the time of diagnosis, and the prognosis for such a tumor is poor. Six month survival figures of less than fifty percent have been quoted.[5] Radiotherapy is efficacious only for seminomatous elements, and chemotherapy has not significantly altered statistics. Even benign appearing tumors should be excised as soon as possible considering the possibility of occult foci of cancer or possible future malignant degeneration.

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Radionuclide Cholescintigraphy in the Evaluation of Hepatobiliary Disease

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ABSTRACT—Radionuclide cholescintigraphy with Technetium-99m labeled imino diacetic acid was performed in 138 patients with suspected acute hepatobiliary disorders. In 33 cases, the gallbladder failed to visualize indicating cystic duct obstruction. Almost all of these patients subsequently were shown to have acute cholecystitis at surgery. The sensitivity of the procedure was 94.8%; specificity 98.8% and accuracy 97.6%. The role of cholescintigraphy in the diagnosis and management of various hepatobiliary disorders, like, cholecystitis, differential diagnosis of jaundice, management of pancreatitis, study of duodeno-gastric reflux and hepatic morphology is reviewed. It is suggested that radionuclide scanning is the test of choice at present for the rapid diagnosis of acute cholecystitis.

Introduction

Several radionuclide studies have been introduced in the last few years with Technetium-99m labeled radiopharmaceuticals to image the hepatobiliary system. In the past, Iodine-131, labeled Rose Bengel and bromsulphathelin were used for a similar purpose, however, because of high radiation dose with Iodine-131, small doses could only be employed resulting in poor imaging. The introduction of Tc-99m labeled radiopharmaceuticals have provided adequate visualization of hepatobiliary system to study the morphology and function as well as dynamics of bile flow pathways.[1] It has lead to wide spread use of Tc-99m labeled acetanilide iminodiacetic acid and its analogs, particularly in the diagnosis of acute cholecystitis. Several reports have

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appeared lately in the literature validating its usefulness.[2-4]

Intravenously administered radio-labeled hepatobiliary agent is metabolized by hepatocytes and excreted into the bowel through intra and extra hepatic bile ducts. In acute cholecystitis, there is obstruction of the cystic duct and non-visualization of gallbladder. The presence of radiotracer in the bowel also indicates that the extra hepatic biliary system is not totally occluded, thus making it possible to investigate non-invasively the cause of jaundice. We have used Tc-99m HIDA in the evaluation of suspected hepatobiliary disorders during the past one year and the initial experience with this procedure in a community hospital is presented.

Material and Methods

One hundred and thirty-eight patients were studied for evaluation of hepatobiliary disorders. There were 55 male and 83 females. The mean age of the group was 57 years. The patients were fasted for 2 to 3 hours prior to the test and serum bilirubin level was obtained. The indications for scanning were mostly the presence of upper abdominal pain with clinical suspicion of acute cholecystitis. In a few cases, studies were performed for differentiation of medical from surgical jaundice. This work was performed under the investigational new drug use protocol of the Union Carbide Corporation, New York. No pregnant women, lactating women or persons under 18 years were included in the study. An informed consent was obtained in each case.

The subjects were positioned supine under a Picker/IV gamma camera with a general all-purpose parallel hole colimater. Tc-99m labeled HIDA (N-(2,6-dimethyl phenyl carbamoyl methyl) imino diacetic acid) was injected intravenously. The dose of Tc-99m varied according to the level of total serum bilirubin. In non-jaundice patients, 1-5 mCi was injected, whereas in jaundice patients up to 10 mCi was used. The total serum bilirubin ranged in the group from 0.1-11.5 mg/dl. The Tc-99m dose ranged from 3.8-9.6 mCi with an average of 4.9 mCi. Immediately after the injection, 4 second dynamic images were obtained up to 48 seconds followed by serial images of the upper abdomen at 5 minute intervals up to 30 minutes and thereafter at 45, 60, 90 and 120 minutes. A total count of 500,000 was obtained for standard field of view images. Delayed images and special oblique views were also obtained, where indicated, for better delineation of the gallbladder. Most of the studies were completed within 2 hours if the gallbladder was visualized and activity noted in the duodenum. In cases with either non-visualization of the gallbladder or failure of activity to appear in the bowel during the initial 2 hours, delayed images were obtained until 24 hours after the injection. The results of cholescintigraphy were correlated with the surgical and pathological findings in patients who underwent surgery after the procedure.

Observations

In normal cases, there was uniform hepatic perfusion followed by homogenous distribution of radionuclide in the liver, visualization of intrahepatic biliary ducts, filling of gallbladder and excretion into the duodenum and proximal jejunum within 40 minutes of the injection (Figure 1). In 41 patients out of the 138 (29.7%), there was persistent non-visualization of the gallbladder for several hours post-injection with passage of activity into the bowel, indicating cystic duct obstruction (Figure 2). In 12 patients, there was delayed filling of the gallbladder beyond the first 40 minutes and often up to 90 minutes after administration of the radiotracer (Figure 3).

In 4 patients, the cholescintigraphy was performed to establish the etiology of jaundice; it was possible in three instances to rule out obstruction because of passage of radionuclide into the bowel. Subsequent liver biopsy in one of these cases, demonstrated acute alcoholic hepatitis. In another patient, there was evidence of partial obstruction of the distal common bile duct. An ultrasound and CT scan of the abdomen were not helpful in further defining the nature of obstruction. At laparatomy, a carcinoma of the head of the pancreas was found. In patients with bilirubin levels above 5 mg/dl, there was increased renal clearance of the radionuclide and relatively elevated background level. In 4 patients, abnormalities consistent with aneurysmal dilation of the abdominal aorta were noted during the dynamic perfusion study. In 4 cases with abdominal pain and chronic dyspepsia, significant gastric bile reflux was observed during the course of scintigraphy (Figure 4). In 2 patients, the hepatograms revealed the presence of space occupying lesions and one of these later proved to be a hepatic abscess (Figure 5). Table 1 shows the scintigraphic and histologic correlation of the studies performed. Fifty-one patients underwent laparotomy and 38 patients had morphologic and histologic evidence of acute cholecystitis. In 13 patients, there was evidence of chronic cholecystitis with choledocho and cholelithiasis. For diagnosis of acute cholecystitis sensitivity of cholescintigraphy as calculated by:

$$\frac{TP}{TP + FN} \times 100 \text{ was } 94.8\%;$$

$$\text{specificity } \frac{TN}{TN + FP} \times 100 \text{ was } 98.8\%$$

$$\text{and accuracy } \frac{TP + TN}{TOTAL} \times 100 \text{ was } 97.6\%.$$

No adverse effects of any kind were observed during the period of this study.

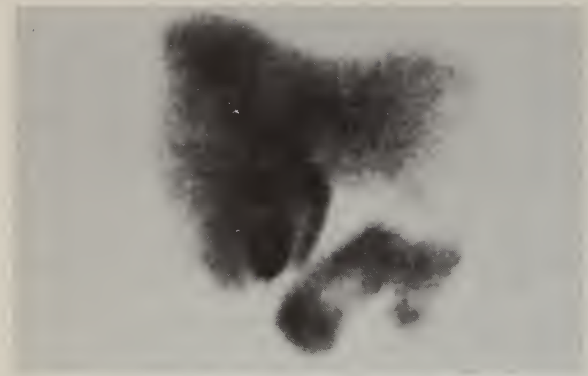

Figure 1
Normal study; demonstrating uniform hepatic radiotracer distribution, visualization of hepatic biliary radicles, gallbladder, common duct and passage of activity in the bowel at 30 minutes.

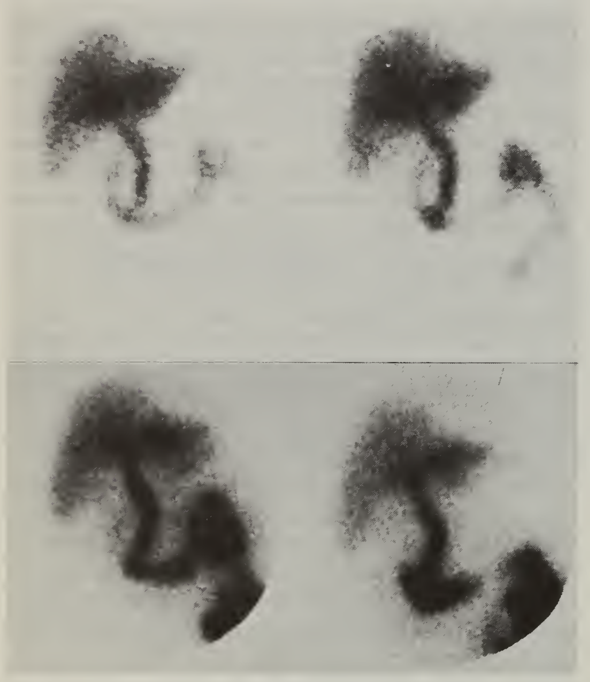

Figure 2
Acute Cholecystitis; non-visualization of gallbladder up to 90 minutes post-injection, normal passage of activity into the bowel.

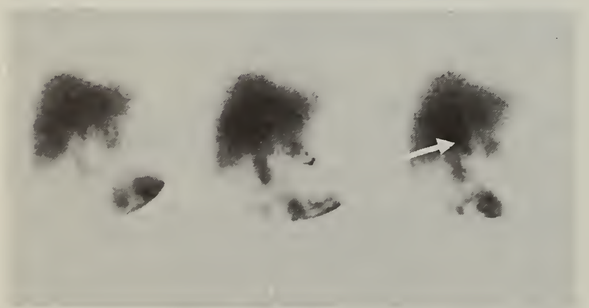

Figure 3
Chronic Cholecystitis; delayed visualization of gallbladder (arrow) at 90 minutes post injections.

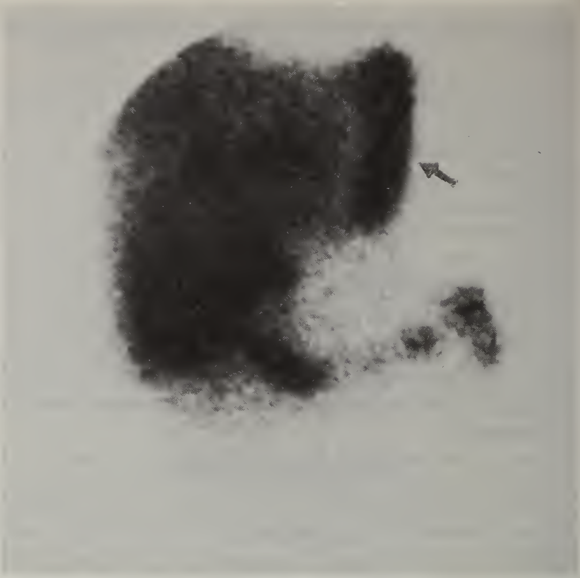

Figure 4
Demonstrates significant gastric reflux (arrow) with normally functioning gallbladder.

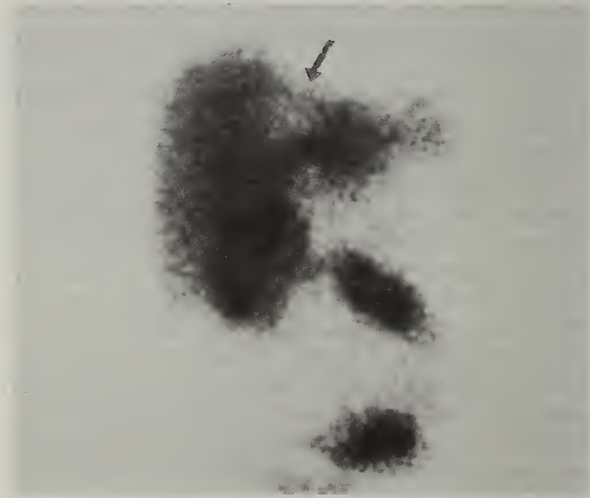

Figure 5
Demonstrates a hepatic space-occupying lesion on the antero-superior aspect of the liver (arrow), with a normally functioning gallbladder.

Table 1
RADIONUCLIDE CHOLESCINTIGRAPHIC AND HISTOLOGIC CORRELATION

Cholescintigraphy	*Number of Patients*	*Acute Cholecystitis*	*Chronic Cholecystitis*
Non-Visualized Gallbladder	39	37	—
Delayed Visualized Gallbladder	12	—	10
Normal	87	1	3
TOTAL	138	38	13

Discussion

Standard radiologic procedures implied in the diagnosis of hepatobiliary diseases like oral cholecystography, intravenous cholangiography, ultrasound and computerized tomography have several inherent limitations in the evaluation of patients with clinical suspicion of acute cholecystitis. Non-visualized gallbladder by oral cholecystography may be due to inadequate intake, vomiting, intestinal malabsorption or hepatic conjugation rather than obstruction of cystic duct. Similarly, gallbladder may not be opacified by intravenous cholangiography in more than 10% of normal subjects,[5] and this may increase further with elevations in serum bilirubin. The ultrosonography and computerized tomography demonstrate the morphology of the hepatobiliary system without providing any information about its function. Since the biliary calculi are widely prevalent, the demonstration of their presence alone does not unequivocally mean acute cholecystitis.[3] The introduction of non-invasive radionuclide procedure has proved a great step forward in the evaluation of this rather common problem. About 85% of the dose of Tc-99m HIDA is trapped by the hepatocytes and excreted into the biliary system. About 15% is rapidly eliminated by the kidneys. The imino diacetic acid moeity is a metal chelating group which allows the analog molecule to be radiolabeled with Tc-99m. This agent competes with bilirubin for the same carrier mediated organic anion hepatocellular excretory pathways and therefore, a high level of serum bilirubin would reduce the HIDA excretion and thus limit its use in jaundiced patients.[4] Recently, other analogs of this newer IDA have been reported to be better for use in cases with serum bilirubin levels up to 15-20 mg/dl.[6]

If the liver and bilary system are normal, the activity would peak in the liver at about 10 minutes and in the gallbladder, common bile duct, and duodenum in 30 to 40 minutes. If the cystic duct is obstructed as occurs in acute cholecystitis, the gallbladder would not visualize on cholescintigraphy.[3] However, an inflammed gallbladder does not contract after stimulation with a meal or intravenous cholecystokinin, whereas, a normal gallbladder would contract after administration of these cholegogue agents. The gallbladder may also be non-visualized in some patients with chronic cholecystitis and neoplasm of the cystic duct.[7] In chronic cholecystitis, gallbladder may also demonstrate delayed filling up to 2 hours after administration rather than early filling as in normal cases.

The statistical analysis of our series correlates well with the work of other investigators. Presently, the accuracy of this study in diagnosing cholecystitis on the basis of a non-visualized gallbladder has been reported about 90% with about 5% false negative studies.[2, 3, 8] In one of our patients, the clinical impression of acute cholecystitis was very high, whereas, cholescintigraphy demonstrated an unusual appearance of gallbladder which appeared to be superimposed on the common bile duct, thus, indicating filling of the gallbladder. However, on clinical suspicion, the patient underwent surgery and had acute cholecystitis with obstructed cystic duct and a dilated common bile duct, creating an impression of a filled gallbladder. Duodenal diverticulum can produce similar false negative scan [9] Both false positive and false negative demonstration of cystic duct obstruction may be dangerous, as surgery may be unnecessarily performed or delayed. The cystic duct obstruction may also resolve spontaneously and therefore, a late negative test does not exclude early obstruction. The test may also therefore, be used to serially assess the clinical resolution of acute cholecystitis in surgically poor risk patients. In two of our patients with clinical suspicion of acute cholecystitis, the cholescintigraphy demonstrated obstructed cystic duct. In repeat study after 1-4 weeks of conservative therapy, gallbladder was normally visualized and correlated well with clinical and biochemical improvement. It is, therefore, imperative that the test be used as an adjunct to and not as a substitute to a throughtful clinical evaluation of the patient.

The changes of radiotracer activity in the hepatobiliary region may be quantitated with a computer aid to study objectively the effect of cholecystokinin on gallbladder function in terms of filling and emptying.[10] Such measurements may help in understanding the patho physiology of hepatobiliary disorders, however, we found that with the present day instrumentation and their superior resolution, the subjective imaging provided adequate visualization of the regions of interest for a sensible interpretation in common clinical situations. The use of cholecystokinin has been advocated in some cases[11] to improve the accuracy of the test, particularly in the diagnosis of chronic cholecystitis. However, we did not have any situation in which to use it, and in two patients with persistently filled gallbladder, fatty meal produced a prompt contraction of the organ with dramatic increase of activity in the bowel.

Cholescintigraphy have also been used in the differential diagnosis of jaundice, particularly with the newer analogs of imino diacetic acid which may be effective even in the presence of markedly elevated serum bilirubin levels.[6,8] This provides a non-invasive and reliable technique to differentiate medical from obstructive jaundice. The technetium IDA scanning may also be of use in patients with upper abdominal pain due to pancreatitis. The gallbladder, in this situation, would be visualized unless there is associated cholecystitis. Radiological studies may not visualize normal gallbladder in up to half the cases in presence of acute pancreatitis, possibly leading to unnecessary surgical intervention.[8] Other use of radionuclide cholescintigraphy have been the serendipitous detection of previously unsuspected abnormalities like aortic aneurysms, hepatic mass lesions, gastric reflux and renal abnormalities.[8] In our study, 10 out of 117 (8.5%) patients also demonstrated previously unsuspected abnormalities with significant bearing on their management.

We feel that radionuclide cholescintigraphy is a simple, non-invasive and sensitive test to study the dynamics of biliary flow. It may also provide useful information about the anatomy of hepatobiliary system; be useful in the management of pancreatitis; help in the differential diagnosis of jaundice and the study of duodenal-gastric reflux. However, at the present time, it is the test of choice for the diagnosis of acute cholecystitis when combined astutely with clinical picture and other available modalities.

ACKNOWLEDGEMENTS

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The Influence of Aspirin on Lung Function in Cystic Fibrosis

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ABSTRACT—Cystic fibrosis (CF) is a disease characterized in part by chronic lower airway obstruction, rhinorrhea, and a 10-15% incidence of nasal polyps. Recent studies have shown that up to 28% of asthmatic children have aspirin (ASA) intolerance characterized in part by significant deterioration in pulmonary function testing (PFT) after the ingestion of ASA (non IgE mediated bronchoconstriction), rhinorrhea, and the presence of nasal polyps.

While there have been no reported cases of ASA intolerance in patients with CF, ASA treatment may be risky for CF patients with potential bleeding such as hemoptysis or biliary cirrhosis with portal hypertension and esophageal varices.

In a double-blind, controlled, random study we looked at the incidence of ASA intolerance in 22 patients with CF. After baseline PTF's, each subject was challenged with ASA at therapeutic doses and

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placebo. Repeat PTF's were obtained serially for three hours after each ingestion.

We found no clinical evidence of ASA intolerance and no significant changes in PFT in response to ASA for the group as a whole or for any individual with nasal polyps, allergy, rhinorrhea, or history of bronchospasm. We conclude that ASA can be safely used in patients with CF without risk of deterioration in PFT, except for those patients with bleeding diathesis.

Key Words

Aspirin intolerance, cystic fibrosis, pulmonary function testing.

Introduction

Samter and Beers described a syndrome in adults consisting of early onset rhinitis, late onset asthma, nasal polyps, and acute bronchoconstriction and/or urticaria following the ingestion of aspirin (ASA).[1] More recently, Rachelefsky, Coulson, *et al.* have shown that up to 28% of children with chronic asthma and rhinorrhea have moderate-to-severe reactions to ASA challenge demonstrated by significant deterioration in pulmonary function.[2] The mechanism for this response is unclear, and numerous theories have been postulated.[3] Recently, much emphasis has been placed on the role of prostaglandin (PG) metabolism.

Cystic fibrosis (CF) is a disease characterized in part by chronic lower airway obstruction and a 10-15% incidence of nasal polyps. Heightened bronchial reactivity may be present in CF patients with significant lung disease.[4] Decreased serum levels of essential fatty acids, which serve as precursors to PGs, and abnormal elevations of $PGF_{2}\alpha$(a potent bronchoconstrictor) have been reported in CF patients.[5,6]

In view of the widespread use of ASA and other nonsteriodal anti-inflammatory agents in the general population, and the possible respiratory hazards associated with its use in children and adults with asthma, the present study was conducted to investigate the effect of therapeutic doses of ASA on pulmonary function in children and young adults with CF.

Patients and Methods

Twenty-two patients (10 males, 12 females) ranging in age from 7 to 20 years (mean age 12.1 years) with a proven diagnosis of CF and followed at the Cystic Fibrosis Clinic at Yale-New Haven Hospital were entered into the study with the approval of the Human Investigation Committee of Yale University, School of Medicine. Informed consent was obtained from each subject and their parents. Baseline pulmonary function, presence of nasal polyps (6 patients), presence of bronchospasm responsive to bronchodilators (4 patients), and allergic history (6 patients) were recorded. All subjects were familiar with pulmonary function testing procedures prior to entering the study. Patients with a history of hemoptysis, gastrointestinal bleeding, biliary cirrhosis with portal hypertension and esophageal varices, or other bleeding diathesis were excluded from the study. No patients had a past history of ASA intolerance. Bronchodilators were discontinued 24 hours prior to testing when applicable.

Each subject was challenged in a double-blind, randomized fashion with ASA (65 mg per year of age, 650 mg maximum dose) and placebo (cornstarch base) using identical gelatin capsules containing no tartrazine. Same day testing was conducted in an attempt to minimize individual daily variability in lung function. Chest physical therapy was performed from 3 to 6 hours prior to the study period in all subjects.

Pulmonary function testing consisted of maximum expiratory flow volume (MEFV) curves recorded on a ten liter Collins Survey Spirometer with an Eagle One Microprocessor[10] and a high dynamic performance X-Y recorder.[11] Measurements of forced vital capacity (FVC), forced expiratory volume in one second (FEV_1), peak expiratory flow rate (PEFR), forced expiratory flow between 25% and 75% of the FVC (FEF_{25-75}), forced expiratory flow at 50% and at 75% of the FVC (FEF_{50} and FEF_{75}), and the FEV_1/FVC ratio were determined from the best three of five forced expiratory efforts taken prior to and at subsequent intervals of 30, 60, 90, 120, and 180 minutes following each challenge dose. The percent predicted values were calculated using spirometric standards for normal children established by Dickman, Schmidt, *et al.* and Zapletal, Motoyama, *et al.*[7,8]

Because of within-subject variability of spirometry in normal subjects and patients with respiratory disorders, individual responses to ASA challenge were evaluated using the method proposed by Nickerson, Lemen, *et al.*[9] Significance of group differences were analyzed by the student t test and a p value greater than 0.05 was considered insignificant.

Results

Comparison of the group response to placebo and ASA challenge by paired t testing analysis did not reveal any significant ASA effect for the group as a whole or in those patients having nasal polyps, allergic histories, poor baseline pulmonary function, or presence of bronchospasm.

Comparison of each patient's response to ASA challenge with his/her own placebo challenge revealed a relatively large within-subject variability in pulmonary function following either ASA or placebo challenge. This variability was most apparent for the effort-independent parameters (FEF_{25-75}, FEF_{50}, FEF_{75}) and PEFR.

Analysis of each subject's response to ASA using the method of Nickerson, Lemen, *et al.* revealed one patient who developed a sustained decrease in FVC and FEV_1 beyond that predicted for normal variability, but less than a 20% decrease in pulmonary function from baseline values. No other consistent differences in any of the pulmonary function determinants were observed in the remaining 21 patients.

No subject developed clinical signs or symptoms of ASA intolerance as described by Samter and Beers[1] or dyspnea during the 6 hour study period and for 3 hours after the study was completed.

Conclusion

The relatively large within-subject variability observed in our study has been previously demonstrated by Nickerson, Lemen, and coworkers. Our study provides further support for the need to individualize criteria for the determination of significant changes in pulmonary function in CF patients.

We conclude that ASA may be safely used in most CF patients without the development of adverse pulmonary consequences or clinical evidence of ASA intolerance. ASA use remains contraindicted in CF patients with a history of hemoptysis, gastrointestinal bleeding, biliary cirrhosis with portal hypertension, or other bleeding diathesis.

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Clinical Pharmacology of Benzodiazepines

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In 1960, a new era in psychoactive drug therapy was launched with the marketing of chlordiazepoxide (Librium ®) by Roche Laboratories. Three years later, diazepam (Valium ®) became the second benzodiazepine available for the treatment of anxiety. Since then, the indications for use of benzodiazepines have expanded to include insomnia, acute alcohol withdrawal, seizure disorders, muscle spasm, and use as an adjunct to anesthesia. Today at least 12 distinct generic benzodiazepines are available under a variety of brand names. Many chemical modifications of the benzodiazepine nucleus have been made in an attempt to change the pharmacologic activity, pharmacokinetic profile, and potency of these drugs. Since 1981 alone, 4 new agents have been introduced.

The Drug Information Service at the University of Connecticut Health Center has received numerous questions about the newer benzodiazepines, especially how they compare with the older agents. In an attempt to understand similarities and differences, we have constructed a table (below) which presents clinical pharmacological information on the available benzodiazepines. The pharmacokinetic information was obtained from published studies and manufacturer's information. The broad ranges for half-lives of elimination reflect variable time course of drug and metabolite(s) in the body found in different persons. The relative potency is in comparison to 1 mg of diazepam. Usual daily dosage ranges are broad to reflect the various uses of the drugs. Appropriate comments are included as needed.

These data are provided to assist the clinician in comparing the pharmacokinetic characteristics, potency, and dosage of the benzodiazepines. The actual choice of drug depends on psychiatric problems present, concomitant medical disease, and history of past response to medication.

We hope this table is useful to the practitioner. If physicians have patient-specific questions about these drugs or any medication, they may call the Drug Information Service at the University of Connecticut Health Center in Farmington for assistance (674-2782).

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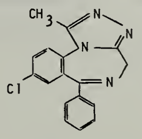
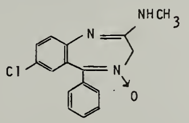
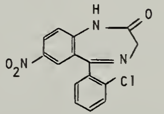
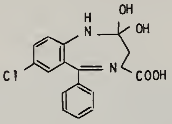
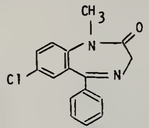
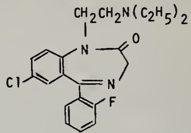
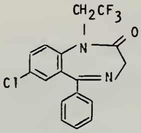
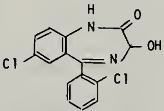
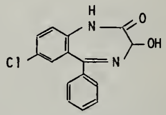
CLINICAL PHARMACOLOGY OF BENZODIAZEPINES

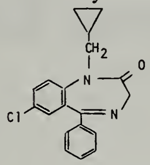
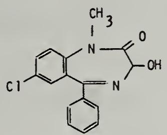
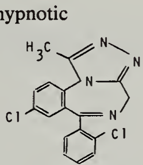
Generic Name	alprazolam	chlordiazepoxide	clonazepam
Trade Name (MFR)	Xanax (Upjohn)	Librium (Roche), various manufacturers	Clonopin (Roche)
Uses	antianxiety	antianxiety, alcohol withdrawal	anticonvulsant
Structure			
Half-life of Elimination, Parent and Metabolities (HR)	alprazolam (12-15) alphahydroxyalprazolam (12-15)	chlordiazepoxide (5-30) desmethylchlordiazepoxide (18) demoxepam (14-95) desmethyldiazepam (50-120) oxazepam (5-15)	clonazepam (19-40)
Potency Relative to Diazepam	10	0.5	not applicable
Usual Daily Oral Dose (MG) (Extremes of Range)	0.75-1.5 (0.5-4.0)	15-60 (10-100)	extremely variable, not more than 20 mg/day in adults
Comments	may have antidepressant activity; may help panic attacks	poor I.M. absorption, accumulates in liver disease	no active metabolites

CLINICAL PHARMACOLOGY OF BENZODIAZEPINES CONTINUED

Generic Name	clorazepate dipotassium clorazepate monopotassium	diazepam	flurazepam
Trade Name (MFR)	di: Tranxene (Abbott) mono: Azene (Endo)	Valium (Roche)	Dalmane (Roche)
Uses	antianxiety, alcohol withdrawal	antianxiety, anticonvulsant, muscle relaxant, anesthetic adjunct	hypnotic
Structure			
Half-life of Elimination, Parent and Metabolites (HR)	desmethyldiazepam (50-120) oxazepam (5-15)	diazepam (24-48) desmethyldiazepam (50-120) temazepam (9.5-12.4) oxazepam (5-15)	desalkylflurazepam (47-100) N-1-hydroxyethylflurazepam (2-4)
Potency Relative to Diazepam	di: 0.7 mono: 0.8	1	not applicable
Usual Daily Oral Dose (MG) (Extremes of Range)	di: 15-60 (7.5-90) mono: 13-52 (6.5-78)	4-40 (2-40)	15-30
Comments	parent drug is decarboxylated in stomach and absorbed as desmethyldiazepam	decreased metabolism with cimetidine and disulfiram, accumulates in liver disease	first pass effect allows little parent drug to appear in serum

Generic Name	halazepam	lorazepam	oxazepam
Trade Name (MFR)	Paxipam (Schering)	Ativan (Wyeth)	Serax (Wyeth)
Uses	antianxiety	antianxiety	antianxiety, alcohol withdrawal
Structure			
Half-life of Elimination, Parent and Metabolites (HR)	halazepam (14) desmethyldiazepam (50-120)	lorazepam (9-25)	oxazepam (5-15)
Potency Relative to Diazepam	not available	5	0.33
Usual Daily Oral Dose (MG) (Extremes of Range)	80-160 (20-160)	2-6 (1-10)	30-60 (30-120)
Comments	long t½ elimination	no accumulation in liver disease no active metabolites	no accumulation in liver disease no active metabolites

CLINICAL PHARMACOLOGY OF BENZODIAZEPINES CONTINUED

Generic Name	prazepam	temazepam	triazolam
Trade Name (MFR)	Centrax (Parke-Davis) Verstran (Warner-Chilcott)	Restoril (Sandoz)	Halcion (Upjohn)
Uses	antianxiety	hypnotic	hypnotic
Structure			
Half-life of Elimination, Parent and Metabolites (HR)	desmethyldiazepam (50-120) oxazepam (5-15)	temazepam (9.5-12.4)	triazolam (2-3) alphahydroxytriazolam (3.0)
Potency Relative to Diazepam	0.5	not applicable	not applicable
Usual Daily Oral Dose (MG) (Extremes of Range)	20-40 (10-60)	15-30	0.25-0.5 (0.125-1.0)
Comments	a. first pass effect allows little parent drug to appear in serum b. similar to diazepam, long t½ elimination	residual sedation seen at 30-60 mg/d	negligible amounts of metabolites, doubtful clinical significance

Strep Toxin: Another cause of toxic shock?

Symptoms similar to those of toxic shock syndrome were seen in patients injected with a streptococcal toxin by researchers at the Oregon Health Sciences University in Portland. At the annual meeting of the Society for Investigative Dermatology, Kirk D. Wuepper, MD, reported that he and colleagues found that two subjects given intradermal injections of streptococcal proliferative factor developed scarlet fever (the first direct evidence that streptococcal toxin causes scarlet fever), and the signs and symptoms of toxic shock syndrome—fever, chills, hypotension, nausea, vomiting, and a rash followed by desquamation of the palms and soles. *Staphylococcus aureus* has been the only organism identified so far as having a role in toxic shock syndrome by the Centers for Disease Control. While he is cautious about drawing any analogies between scarlet fever and toxic shock, Dr. Wuepper said, in a *Modern Medicine* telephone interview that he believes the two diseases might be dose-related—that the streptococcal toxin in too great an amount will cause not only scarlet fever, but toxic shock as well.

—*Modern Medicine,* September 1982

Experience with Computerized Office Records

MORTON SOLOMON, M.D.

ABSTRACT—The storage, retrieval, and communication of data are essential aspects of medical and dental practices. Computerization has been effective in business and can offer many advantages to medical practitioners as well. The legibility and organization of the records is enhanced and information is more easily shared. The quality of care can be monitored without leafing through countless pages of a paper chart. The financial viability of the practice is augmented by a comprehensive billing and accounts receivable system. Information is available in time to do something about it. Clerical duties are reduced and personnel are free for other tasks. Bad debts and lost charges are reduced and cash flow is optimized. A large variety of additional programs are available.

I would like to describe how our computerized office system evolved, what it does, what "bite" it takes. As a country doctor I approach things simply; a wish takes form, is nurtured, disciplined and interacts with the world.

My story begins 20 years ago in New Orleans, at the Tulane Bio-Medical Computing System where Dr. Richard D. Yoder and others were working on concepts of "An Automated Clinical Information System." Fifteen years ago I made several trips to visit the IBM Research Labs in Peekskill, New York, discussing areas of potential physicians' use of computers. During my career with the FDA and a pharmaceutical manufacturer my attention was focused using computers to handle research data, design clinical forms, and the testing of drugs. For the last ten years I have been practicing private medicine and face the gyrations one must go through to get paid ("reimbursed"). Methods were developed for logging services, processing forms in and out (and back out again), people and insurance companies were reminded, and books were kept for taxes and payroll. The methods didn't work the way they were supposed to. And there was the time spent holding the hands of those who worked with me and saw it for what it was—a nightmare. The paperwork was a burden that didn't assist in the care of the patient. In a report by the Royal College of General Practitioners it is said that improvement of manual records has been "an achievement reserved for obsessional and fanatical exponents of the art and science of general practice."[1]

In 1975 Eugene A. Fucci of the Kiewit Computation Center at Dartmouth College recommended that I become familiar with MUMPS. MUMPS (Massachusetts General Hospital Utility Multi-Programming System) is a compact, high-level interpretive data management system designed for medical applications. It is an ANSI standard language particularly suited for interactive applications that require a large shared database and the efficient manipulation of textual data. It was developed on DIGITAL equipment but other companies also support it. In November 1982 DIGITAL is expected to come out with a "microcomputer" with 256K of memory and 5 megabytes on a Winchester Drive which should be able to support MUMPS.

Three years ago I discovered COSTAR (COmputer-STored Ambulatory Record system) designed by the Massachusetts General Hospital Laboratory of Computer Science for use by the Harvard Community Health Plan. COSTAR is a flexible medical and management information system and is the only system currently available that enables users to store and retrieve all medical record data. By the spring of 1981, a video display terminal, high-speed printer, a modem, and a telephone line gave me access to a minicomputer. After testing and adaptation I converted my medical practice to computerized records and formed Professional Service Bureau to offer computer and information services to other practitioners.

Shared computer service bureaus are commercial organizations that provide computer services to clients at remote locations through telephone hookups (online) or batch paper input. The advantage of a service bureau is that you buy only what you need and use,

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operating procedures are simple, and a wide variety of programs at low initial cost are available. Remote computing is economical and low risk; it is more economical to use a share of a computer than to own even a small computer (considering the cost of operating personnel, software, and maintenance). The user is making a risk-free investment that eliminates ledger cards, pegboards and other outmoded record keeping methods. This system can give the small medical and dental practice the kind of sophisticated information previously available only to large group practices. Multiple users can be tied into this system without fear of loss of confidentiality or interference. The information is confidential and secure; practice information can be restricted to specified personnel. As part of the billing process, all third-party insurance forms are completed automatically. There are a wide variety of reports available.

My practice now enjoys the benefits of modern methods of record keeping. This information system significantly assists in my practice management, patient care, and clinical audits.

The *registration process* involves the gathering of initial information about a patient who is new to a practice. The registration information is defined as that relatively stable data pertaining to a specific patient. It encompasses: *personal data:* name, sex, and date of birth; *administrative data:* patient's address, telephone numbers, occupation, employer, work address, marital status, spouse's name and occupation, primary physician, name and address of the guarantor, account number, unit number, credit status, and any other non-medical data requested by the practice; *insurance information:* insurance company, insurance subscriber, policy and group numbers.

The data is available for rapid display and may be updated quickly. The registration information is collected by the receptionist on the first visit. The information is entered directly into the terminal or from a questionnaire completed by the patient.

Each practice has the flexibility to design single or multiple medical information—gathering documents; encounter forms. In some practices, providers can enter *encounter data* directly into the system with terminals in the consultation room. This avoids two transcriptions of the data (onto the encounter form and then into the system) and eliminates the need for verification of the information by the physician.

After the *medical data* is entered, data can be retrieved and displayed on a video terminal or printed on paper. I am now experimenting with a portable printing terminal, cutting down the barrier between the office and hospital records. The display/print medical data option includes status report, encounter report, most recent encounter, and list of encounters. A flowchart may be selected to trace previous listings of an abnormality. There are standard flowcharts for hypertension, diabetes, anemia, congestive heart failure, kidney failure, and patient summary.

The *accounts receivable system* enables the practice to handle patient billing and payments, insurance forms, credit rating and month end accounting functions. Automatic processing of *insurance claims* to third party payors is often near the top of the list of reasons to consider a computer system. The accounts receivable system includes the following capabilities: automatic entry of chargeable items from the encounter form; posting of payments and adjustments from guarantor or insurance company, coordinating payments from secondary insurance carrier, printing insurance forms, and summary of daily financial activity.

The *month-end function* provides procedures for: calculating month-end balances for all accounts, printing statements for accounts with outstanding balances, reporting accounts with balances aged in 30-day intervals up to 150 days, printing an alphabetical monthly ledger for all active accounts, reporting all accounts by billing credit indicators (BCI's) with balances, reporting a guarantor list with aged totals for any third-party carrier, listing revenue with month-to-date and year-to-date totals for revenue centers and providers.

A report generator and a medical query language enable a non-programmer to search the data in the system and select sub-sets of patients or visits and list or cross-tabulate the data retrieved. I was able to identify all patients taking digitalis, digoxin, or digitoxin who are also taking hydrochlorothiazide, chlorthalidone or furosemide and list the patient's name, date of last visit, last serum digoxin level, and last serum potassium level. I have listed all patients whose last diastolic (uncontrolled) blood pressure was over 105 mmHg. with the date of their last office visit, their current medications, and their telephone numbers.

The service costs no more than commercially available billing systems and probably less than the manual operations it replaced. For a small practice the cost is \$1,250-\$2,500/month; for a large practice the cost is \$3,000-\$5,000/month depending on computer resources required. I now have a well trained, knowledgeable servant who is very finicky but works at a cost of about \$5.75/hr. including taxes, benefits (and no extra cost for overtime). She's missed eight days in nine months because of illness, but she has no marital or domestic problems. There is a magnetic tape "Journal" that stores the practice data for protection when again she crashes. When she has temporarily crashed, there are backup copies of the encounter reports in the paper chart or we do as we had done previously when I saw patients in the emergency room or a chart was lost; make do until the system is rebooted. She takes instructions from everyone in the office. She simply asks questions and accepts what she needs to know. She does not have piles of "to do" work. It requires little expertise to work with her. She stays out of our

COMPARISONS BETWEEN MANUAL AND AUTOMATED OFFICE SYSTEMS

	Manual	*Automated*
Coding for Billing and Insurance Forms	Procedure and diagnostic codes, and prices must be remembered or looked up repeatedly and recorded on patient bills and insurance forms.	Codes and fee schedules are in the directory and automatically printed onto the insurance form, billing statement, daily ledger.
Third Party Billing Control	Chronologic list of unpaid insurance claims submitted is difficult to keep up.	Monthly report of outstanding third party claims with aging is standard.
Daily Ledger	Daily ledger is in no special order and may be difficult to reconcile.	Daily input is verified against deposit slips, charge slips, and scheduling lists.
Accounts Receivable Control	Charges and payments are posted, distributed and balanced. Erros are frequent and may be difficult to detect.	Items are entered into computer once and distributed automatically. Imbalance is impossible.
Monthly Reports	Listing of delinquent accounts is laborious and is usually outdated by the time prepared.	Monthly ledger produces a list of transactions. Revenue analysis breaks down income by provider and revenue center. Billing credit indicator is the credit status of an account.
Medical Records	Data is usually kept chronologically and may be difficult to review and decipher. Lost and misplaced records.	Stored data may be retrieved by diagnosis, test or provider, and displayed/printed in a choice of formats: status report, encounter report, flow chart and/or patient summary.
Laboratory Reports	Chart must be unfiled, results transcribed in lab sheet, refiled.	Results filed automatically when entered.

hair, competently does the worst jobs in the office without complaining and frees people to do what they should do—take care of patients.

My patients' medical records are more legible, organized and accessible. The billing system and associated accounting reports have enhanced the financial solvency of the practice. Information for budgeting and planning as well as daily management is available. Medical reports now more closely reflect the care given. It is now possible to monitor the practice records for incomplete or substandard work.

This technology does compete for the practice's income. This physician found that he obtained more satisfaction from money spent on an electronic device than for a new automobile.

While the burden of collecting and retrieving information became lighter, it also became apparent that medical data is remarkably soft in comparison to typical engineering standards. We can get beautiful pictures of Jupiter and Saturn but often can't look at a patient hospital chart and come away with any sense of a patient's state of health. Patients perceive themselves as ill and describe their past medical history and current illness with intellectual and emotional buffers which may act as informational and linguistic barriers. Electrocardiograms, x-rays, laboratory tests are somewhat more consistent and comparable from visit to visit. In addition, computer-based record systems are less error-prone than human memories and that enhances the completeness of even soft data. The advantages of a computerized record is that large amounts of information can be organized, quickly accessed, and visually verified; increased legibility and accuracy; reduced paperwork and filing, and reduced effort and confusion.

It has been repeatedly pointed out that we are in the midst of a change in our economy and society comparable to that of the industrial revolution. Routine tasks will be automated and systems that help the professional information worker have immense potential for improving productivity.

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Important Advances in Clinical Medicine

Epitomes of Progress—General and Family Practice

Gardnerella Vaginitis

Rapid changes have occurred during the past four years in the understanding and treatment of "nonspecific vaginitis." In 1954 Gardner described the role of a short Gram-negative bacillus, then designated as *Haemophilus vaginalis,* in a type of vaginitis that was not due to *Trichomonas, Candida* or *Neisseria.* It was not until 1978, however, when a group of researchers in Seattle reported that this organism may be responsible for virtually all cases of nonspecific vaginitis, that widespread understanding of this condition and the current therapy began to emerge. Recently the organism has been reclassified as *Gardnerella vaginalis.*

The term nonspecific vaginitis is now a misnomer because the clinical picture of gardnerella vaginitis is quite specific. Indeed, as is the case with other forms of vaginitis, this condition may be strongly suspected from the history and findings on physicial examination. The characteristic symptoms are a grayish or white discharge and a typical odor. Usually absent are the symptoms of itching, burning or soreness seen with other forms of vaginitis. The odor is described as "fishy," becomes stronger after sexual intercourse and is accentuated by mixing on a slide the discharge with a drop of 10 percent potassium hydroxide solution. This test is diagnostic and may be done in the examination room.

The wet mount preparation in gardnerella vaginitis shows few leukocytes and virtual absence of the normally appearing lactobacilli. Instead there are numerous short bacilli that are barely visible except by a Gram strain under oil magnification. The microscopic confirmation of the diagnosis is usually made of a wet mount by the appearance of the epithelial cells. The cytoplasm of the cells is granulated with the *G vaginalis* organisms and the margins are often indistinct ("clue cells").

Clinicians should be aware that an exact diagnosis in vaginitis may be difficult because of the often simultaneous occurrence of two or more infections.

Gardnerella vaginitis is generally a sexually transmitted disease. Either partner may be an asymptomatic carrier of the organism, so to eradicate the infection both partners should be treated.

Topical therapy has not been effective in treating gardnerella vaginitis. This is particularly true of the topical sulfonamides that have been widely advertised for use in nonspecific vaginitis. At present the treatment of choice is oral administration of metronidazole (Flagyl). Doses of 500 mg twice a day for seven days or 250 mg three times a day for seven days for both patient and partner are usually effective. The two-gram single dose that is commonly given for trichomoniasis is not considered sufficient therapy for gardnerella vaginitis. Patients taking metronidazole should be instructed not to consume alcoholic beverages during the treatment period.

There is no effective method available for the treatment of gardnerella vaginitis during pregnancy. The organism is not considered dangerous to the birth process.

Ongoing research will further advance the understanding and treatment of gardnerella vaginitis. Recent studies show that other organisms, particularly anaerobic bacteria, interact with *G vaginalis* to produce the discharge and odor. Researchers in family practice and other disciplines are studying treatment methods and it is hoped that alternatives will soon be available.

Joseph E. Scherger, M.D.

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Better Management of Asthma With Mini-Wright Peak Flow Meter

Since Aretaeus first described asthma as "heaviness of the chest; sluggishness to one's accustomed work," the medical definition of asthma has continued to evolve. With the advent of the stethoscope, wheezing was added to the list of signs and symptoms of asthma. In modern times pulmonary function testing has defined asthma on a physiologic basis as "reversible airway obstruction." Evidence of general α-adrenergic hyperresponsiveness in circadian patterns of airway obstruction may allow redefinition of asthma in the future as an abnormality of central nervous sytem regulation of respiration.

Turner-Warwick has suggested new classifications for asthmatic patients on the basis of patterns of airway "host responsiveness." Using measurements of peak expiratory flow rate (PEFR), she was able to show the recurrence of three predictable patterns of airway obstruction: (1) brittle asthmatic, (2) morning dipper and (3) irreversible. She suggests that the measurement of PEFR to detect these patterns can be used to determine the timing and dose of bronchodilator medications. The PEFR patterns noted by Turner-Warwick may persist from weeks to years and can be modified by appropriately timed treatment guided by home PEFR recordings.

The "brittle asthmatic" condition is characterized by extreme variability of PEFR, analogous to the variability of continuous blood glucose measurements seen in brittle diabetes. The "morning dipper" pattern is characterized by a diurnal pattern of falling PEFR in the early morning. In the irreversible pattern, PEFR measurements over weeks and months reveal minimal diurnal variability, though a modest improvement in mean PEFR may be noted with regular use of bronchodilators or steroids. This pattern is frequently seen in severe chronic obstructive pulmonary disease (COPD).

The Mini-Wright Peak Flow Meter is a simple spring-loaded piston device that measures PEFR in liters per minute during maximal forced expiration. It has a reproducible 98 percent correlation with the standard Wright Peak Flow Meter. The instrument is widely used in Great Britain, and is available through an American distributor for approximately $60. Most patients, including small children, can learn in a few minutes to use the instrument and can make PEFR measurements at home.

Measurements of PEFR in the office, home or work place can be useful in diagnosing and treating airway obstruction. PEFR measurements before and after a challenge with bronchodilator in the office can be used as a diagnostic test for asthma. An increase of 15 percent or more in the PEFR is interpreted as evidence of reversible airway obstruction. Alternatively, a patient may be sent home with the meter to record PEFR four times a day for one or two weeks. Home measurements of PEFR, when correlated with symptoms, may aid in determining optimum timing and dosage of medications. Frequently, optimal dosing can be achieved without the expense of serum theophylline determinations. The need for chronic versus episodic use of bronchodilators may be determined using home PEFR measurements.

In some cases, patients may purchase a Mini-Wright Peak Flow Meter and learn to manipulate their own medication based on a PEFR sliding scale provided by their physician. This self-titration of medication promotes a sense of partnership with the physician and reduces an illness-associated sense of helplessness in an asthmatic patient. Preliminary experience with the Mini-Wright Peak Flow Meter indicates that selected patients can use this PEFR sliding-scale regimen to improve daily control, resulting in fewer visits for emergency medical care and, perhaps, fewer admissions to hospital.

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Advanced Trauma Life Support

Trauma is surpassed only by arteriosclerosis and cancer as the leading cause of death in the United States and is the leading cause of death in the first three decades of life. Primary care physicians are often responsible for the initial care of trauma victims.

Trauma care training previously had been carried out by preceptorship and lectures, neither of which allowed a "hands on" learning experience. Standards for resuscitation of a trauma victim such as those set forth by the American Heart Association for advanced cardiac life support (ACLS) did not exist before 1977. In 1977 a course in advanced trauma life support (ATLS) was developed and revised by the Lincoln Medical Education Foundation, Physicians' Committee on Trauma, Southeast Nebraska Emergency Medical Services, the American College of Surgeons, The University of Nebraska School of Medicine and a number of practicing surgeons. The course was presented statewide in Nebraska to practicing primary care physicians, who were overwhelmingly in favor of the format. As a result, improvement in the condition of severely injured patients was noted.

The ATLS course is quite similar in format to the ACLS course. It is designed for family practitioners and emergency room physicians. There are ten lecture and slide presentations and ten practical skill stations. With these skill stations and lectures, physicians learn various lifesaving techniques, such as chest tube insertion, pericardiocentesis, cricothyroidotomy, peritoneal lavage, application of an antishock garment, application of splints and spinal boards, radiographic interpretation, patient assessment, intravenous catheter placement technique, fluid replacement and endotracheal intubation with an emphasis on nasotracheal intubation. Students must show satisfactory knowledge and technical performance of these skills to their instructor to pass the course. Anesthetized dogs are used for teaching some of the invasive skills. The initial skill assessment station is particularly noteworthy in that it gives students a chance to practice their skills and to be tested on the ability to initially assess and treat a multiply injured patient. Well-coached persons with appropriate simulated injuries are used as patients for students to assess. The students review case histories and appropriate physical findings. The chaos of the typical emergency room is created by the "patients" and the supportive nursing staff. A student must systematically examine a patient, perform lifesaving interventions, order and interpret the appropriate laboratory and x-ray studies in a specified time; otherwise the "patients" will die of their injuries.

Instructor level courses are also available for those interested in teaching ATLS courses. At the University of California, Los Angeles (UCLA), the Family Practice Group has found this training especially useful for physicians in rural sites and an adjunct to ACLS courses for physicians with an active hospital practice. The ATLS course is now available nationally through several groups.

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Preoperative Preparation of Patients

About 18 years ago Egbert and co-workers reported that preoperative visits were beneficial in that they gave support and information to patients having elective surgical procedures. The study showed substantial reduction in the use of narcotics, earlier resumption of activities and shortened hospital stays in addition to subjective benefit. Other studies have suggested relaxation techniques taught to patients having an elective operation reduced incisional pain and the need for analgesics postoperatively. Furthermore, informing surgical patients about sensations that will be experienced during the perioperative period effectively reduced stress and the length of hospital stay.

Despite this evidence, routine preoperative visits by an anesthesiologist or surgeon continue to be mainly perfunctory; rarely is an attempt made by a busy physician to understand a patient's anxieties or to teach simple pain-control techniques. In some hospitals nursing services have taken over this task.

Though program formats vary, efforts are being made to offer all patients this preoperative preparation. At the San Jose Hospital (San Jose, California), for example, the program is run by the recovery room nursing staff to ensure continuity during the early postoperative period. During the early evening before operation an audiovisual program, prepared by the nursing service, is shown to all available preoperative patients. This is followed by a session in which leg and breathing exercises are taught. Each patient is then visited by a nurse who asks open-ended questions (that is, designed to permit spontaneous responses). A summary nursing record sheet is prepared, listing special problems that should be considered during the operative procedure or in the immediate postoperative period. This record includes issues elicited during the interview, such as special fears or anxieties. The summary sheet is reviewed by the nursing staff in the operating room, recovery room and on the surgical floor.

The available evidence is quite convincing that this type of program should be encouraged in all of our hospitals.

William C. Fowkes, M.D.

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Culdocentesis to Diagnose Ectopic Pregnancy and Pelvic Inflammatory Disease (PID)

Prompt and accurate diagnosis of ectopic pregnancy and acute salpingitis is critical for timely and appropriate treatment. Delay and misdiagnosis can result in an unnecessary surgical procedure, delay in necessary surgical or antibiotic treatment and increased patient morbidity and mortality.

Culdocentesis is a simple, safe and efficient diagnostic tool that allows direct examination of free intraperitoneal fluid and provides immediate, accurate and readily interpretable information. In proved ectopic pregnancy, culdocentesis yields nonclotting blood with up to 82 percent accuracy. Accuracy increases to 97 percent when combined with radioreceptor assay (RRA) pregnancy test. In acute salpingitis purulent peritoneal fluid can be examined directly with greater accuracy than endocervical fluid.

Careful patient selection and good fundamental technique are critical to success. In both suspected ectopic pregnancy and acute salpingitis there should be signs of peritoneal irritation—that is, pain on cervical motion, rebound tenderness, a bulging cul-de-sac or shoulder pain. If a patient has none of these, culdocentesis is less likely to be useful. Similarly, a fixed mass or a fixed retroverted uterus that fills the cul-de-sac contraindicates culdocentesis.

The essential equipment are a speculum, a tenaculum, and 18-gauge spinal needle, a 10-ml syringe (a three-finger control syringe is more convenient), sterile sponges and ring forceps, iodine preparatory solution and gloves. Good sterile technique should be used.

The technique includes the following steps: (1) a thorough pelvic examination, including careful bimanual examination (for cervical tenderness, uterine position, adnexal or cul-de-sac masses or tenderness); (2) speculum placement and preparation of cervix and vagina; (3) application of the tenaculum to the lower lip to the cervix (caution patients about cramps) and positioning of the cervix to allow access to the cul-de-sac; (4) draw 2 to 3 ml of air into the syringe; (5) puncture the vaginal mucosa in the midline 1 cm below its posterior reflection away from the cervix. The needle should penetrate below the cervix and uterus and above the rectum; (6) hold the needle and syringe horizontally and advance 3 to 4 cm through the mucosa; (7) inject the 2 to 3 ml of air. If there is resistance the needle has entered solid tissue and should be repositioned; (8) aspirate, and (9) the procedure is terminated after aspiration of fluid or three dry taps. Bleeding will be minimal.

Complications are very rare and are primarily the result of penetration of pelvic organs, cysts or tumors. They should be avoidable with good technique.

J. Timothy Murphy, M.D.

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Diethylstilbestrol (DES) Update 1982

From 1940 to 1971, several million pregnant women in the United States were given a nonsteroidal synthetic estrogen, diethylstilbestrol (DES), most commonly for the prevention of miscarriage. In 1971 Herbst and associates established the link between the development of clear cell adenocarcinoma of the vagina and cervix and DES exposure in utero. Later that year, the Food and Drug Administration (FDA) declared DES contraindicated for use in the prevention of miscarriage. The likelihood of a clear cell adenocarcinoma developing in the vagina or cervix of a DES-exposed daughter now appears to be about 0.14 to 1.4 per thousand. Other abnormalities that may occur in DES-exposed daughters include: vaginal adenosis (columnar epithelium in the vagina), cervical ectropion or eversion and vaginal and cervical ridges that have been described as "collars," "hoods" and pseudopolyps. These noncancerous abnormalities are present in the vagina of about a third and in the cervix of nearly all DES-exposed daughters.

We are becoming increasingly aware of DES-related problems in pregnancy as DES-exposed daughters reach reproductive age. These women are at significantly increased risk for stillbirth, neonatal death, miscarriage, and ectopic pregnancy as well as for preterm delivery. DES exposure has been implicated in incompetent cervices and abnormally shaped uterine cavities. Pregnant DES-exposed daughters should therefore be treated as high risk patients.

Identification of the DES-exposed daughter is difficult because many are unaware of their exposure. Questions aimed at eliciting a history of DES exposure should be routinely asked of all women born between 1940 and 1971. Evaluation and management for DES exposure should be made according to recommended guidelines: when a female patient with a known history of DES exposure in utero reaches menarche or is 14 years or older, whichever comes first; when any of the abnormalities described above are detected on physical examination, or when a premenarchal girl presents with unexplained vaginal bleeding, spotting or discharge.

Data on DES-exposed sons are less extensive; however, they do show a significantly higher than expected incidence of undescended testes, epididymal cysts, hypoplastic testes, microphallus, lower sperm counts and abnormal sperm. DES-exposed sons should be informed of their exposure when known, and care should be tailored to specific problems.

Because of the anxiety, frustration, guilt and anger experienced by many DES-exposed persons and their families, health care providers must be open, candid and supportive with these patients. For DES-exposed daughters, especially, clear and complete explanations of the DES examination, detected abnormalities, treatment and expectations may be supplemented by referrals to local DES peer-counseling groups.

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Menstrual Extraction

Since the historic Supreme Court decision in Roe vs Wade in 1973 that removed nearly all legal strictures against abortion, the demand for legal abortion has steadily increased in the United States. In response to this demand, newer and safer procedures for pregnancy termination have evolved. One of the most important of these is menstrual extraction.

Menstrual extraction is an office procedure that can be readily mastered by physicians providing family planning services to their patients. The procedure is somewhat analogous to the insertion of an intrauterine device in that, without prior cervical dilatation, a soft plastic cannula is inserted in the uterine cavity. Instead of using the cannula as a conduit for placing an intrauterine device in the uterus, however, a 50-ml Karman syringe is connected to the cannula and the products of conception are aspirated out. Following the procedure, Rh_0 (D) immune globulin (human) microdose (MICRhoGAM) is administered to Rh-negative women to prevent sensitization.

Candidates for menstrual extraction are women with pregnancies less than seven weeks in size and duration from their last menstrual period. The presence of acute pelvic inflammatory disease is the only major contraindication.

Successful termination of pregnancy is possible in up to 99 percent of cases. Major advantages of menstrual extraction are its lack of serious complications and the fact that it obviates the need for the more expensive and risky dilatation and suction curettage. Immediate side effects occur in approximately 6 percent of patients, and these include syncope, nausea and pain. Late complications include endometritis in 0.8 percent to 2 percent, excessive bleeding in 0.6 percent to 3 percent, cervical or uterine perforation in less than 0.01 percent and incomplete evacuation in 0.6 percent to 2.5 percent.

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Tetracycline for the Treatment of Gonococcal and Nongonococcal Urethritis

In 1979 the Centers for Disease Control (CDC) changed the previous recommendation of procaine penicillin as the drug of choice in uncomplicated gonorrhea to include three drug regimens of choice:

- Aqueous procaine penicillin G (APPG): 4.8 million units injected intramuscularly at two sites, with 1 gram of probenecid by mouth;

or

- Tetracycline hydrochloride: 0.5 grams by mouth four times a day for five days (total dosage 10.0 grams). Other tetracyclines are not more effective than tetracycline hydrochloride. All tetracyclines are ineffective as a single-dose therapy;

or

- Ampicillin or amoxicillin: ampicillin, 3.5 grams, or amoxicillin, 3.0 grams, either with 1 gram of probenecid by mouth.

Gonorrhea continues to be a major public health problem, with nongonococcal urethritis (NGU) becoming even more prevalent. Of great concern is the fact that postgonococcal urethritis (PGU) occurs in 30 percent to 60 percent of heterosexual men who are treated with drugs other than tetracycline for their gonorrhea.

Both NGU and PGU are caused by *Chlamydia* or other similar tetracycline-senstivie agents; PGU is simply the infection unmasked after concomitant gonorrhea-chlamydial exposure is treated with a drug that is not effective against NGU. NGU requires at least seven days of tetracycline therapy—0.5 grams by mouth four times a day—and many practitioners therefore treat gonorrhea with tetracyline for this length of time to provide adequate therapy for possible concomitant NGU.

There are other advantages to using tetracycline: (1) like penicillin, it is likely to be effective against incubating syphilis; (2) it may reduce the recent increasing incidence of penicillinase-producing *Neisseria gonorrhoeae* (PPNG) strains; (3) it was effective against a recently reported case of a gonorrhea strain resistant to both penicillin and spectinomycin; (4) cost, and (5) low incidence of adverse reactions.

Tetracycline should not be used in children, pregnant women or in patients where compliance is an important consideration. Although NGU is not reportable in many states, it should be remembered that, like gonorrhea, the asymptomatic partner should be treated. Tetracycline is an excellent choice for this indication as well.

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Sports Medicine—Objectives of the Preparticipation Evaluation

Increasing numbers of family physicians are being called on to assess the fitness of potential young athletes to participate in competitive sports. Whereas in the past this assessment was a cursory examination that most practitioners conducted with little thought or preparation, recent evidence suggests that a thorough and rigorous evaluation will benefit both the physician and athlete if the following objectives are accomplished: (1) determination of the general state of health and treatment of remedial conditions; (2) determination of the level of physical fitness and recommendations for same; (3) assessment of size and maturation to aid in determining the safety of participating with peers; (4) evaluation of preexisting injuries and recommendations for rehabilitation where appropriate; (5) restriction of activity or disqualification from specific sports when contraindicated by physical limitations or disease that would preclude safe participation, and (6) recommendations for appropriate activity when participation has been restricted.

Specific data gathered during the preparticipation examination can be used to formulate a physiologic profile that can be used by a physician to monitor effectiveness of training, predilection for injury and the efficacy of injury-specific rehabilitation during the season. In specific sports, such as wrestling, this profile can be used to recommend optimal and reasonable weight categorization, thereby eliminating the hazards of attempting to reach arbitrary weight standards.

Physicians should consider themselves active participants in a comprehensive sports medicine program that should be designed to optimize the performance of an athlete. They should be well-equipped to offer appropriate counseling with regard to preseason conditioning, rehabilitation of preexisting injuries and correction of remedial conditions that will enable an athlete to compete without undue risk of injury.

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Infant Death: Life and Death in Newborn Special Care Units

THAYER BALDWIN, JR. J.D.

Connecticut State Department of Health Services

Infant Death Report
Department of Health Services
Executive Summary

The Department of Health Services has issued the following report on the subject of withholding or withdrawing care from devastated infants. Background information was gathered to support its conclusions in the following ways:

1. Review of hospital medical records and State Department of Health Services records including comprehensive review of all deaths in a neonatal unit over a six month period; a selected sample (18) of deaths of infants which occurred between six days and six weeks of life in the State of Connecticut during one calendar year; and review of the medical records of the Down's Syndrome infants noted by Dr. Joseph Warshaw in his testimony to the Public Health Committee of the General Assembly;
2. Review of literature published and unpublished (see Bibliography);
3. A general survey of laws adopted and applied by other states and policies established and applied by health departments and educational and health care institutions; and
4. Interviews and meetings with neonatologists, pediatricians, nurses, social workers, hospital administrators, parents and advocates for the handicapped and developmentally disabled.

The report makes the following findings:

1. Treatment is withheld or withdrawn from devastated infants in this State in extremely rare instances at the direction of parents with the concurrence of the attending physician;
2. Physicians and institutions have not sought third party intervention when they disagree with parental decisions, although on occasion they have withdrawn from the case or referred the infant to another institution;
3. As a general rule institutions have neither adopted written policies governing these difficult circumstances nor established adequate review mechanisms to assure that policies are followed;
4. Knowledge of health professionals about the nature of handicaps and availability of community support resources is limited;
5. Existing law in the State of Connecticut provides for both civil and criminal remedy in the event of an inappropriate parental decision;

The report reaches the following conclusions:

1. There is no preferable alternative to the existing decision making process; and
2. Devotion of state time, energy and resources to improving prenatal care and caring for infants and children will more effectively and productively save, sustain and improve the lives of newborns than the establishment of another layer of public review of treatment choices in newborn intensive care units.

Based on its review and findings, the Department of Health Services makes the following recommendations and suggestions:

1. The medical staff of each hospital where obstetrical and/or neonatal services are provided should develop and adopt, with the approval of the governing body, written policies for the decision making process concerning the treatment of critically ill newborns. Such policies should address:
    a. Who is involved in making informal and formal recommendations to physicians and parents;
    b. Who makes the final decisions;
    c. How recommendations, decisions, orders and care are to be recorded; and
    d. Circumstances in which third party legal intervention would be appropriate.

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2. Hospitals should establish in-service programs and monitoring systems to ensure staff awareness of, and adherence to, such policies;
3. Hospitals should ensure the availability of volunteers familiar with handicapping conditions to consult with parents during and after the decision making process; and
4. Hospital in-service programs should be established relative to:
    a. Physician interaction with parents of critically ill neonates;
    b. Awareness of, and use of, community support resources;
    c. Various handicapping conditions, their varied prognoses, required treatments and training, availability of training; and
    d. Pertinent existing state statutes.
5. The professional provider community should expand the availability of continuing education in medical ethics and bioethics.

Introduction

Dylan Thomas begins A Child's Christmas in Wales with an admission of confusion: ". . . . I can never remember whether it snowed for six days and six nights when I was twelve or it snowed for twelve days and twelve nights when I was six; . . . ."

In much the same way we can be confused by the volumes of material about the intensely emotional questions surrounding our expanding ability to choose between life and death. People now decide when their own lives are meaningless because medical practice, medical science and the broad availability of sophisticated medical care has the capacity to preserve life beyond previously assumed natural boundaries. Like Dylan Thomas, we can dismiss our confusion and hurry on to what we preceive to be the more important considerations of the here and now.

Unlike Dylan Thomas' confusion about how long it snowed, which had little to do with the grace, beauty and depth of feeling about Christmas in Wales, our confusion about life and death decisions might well detour or distract us from core questions about the sanctity of life; from our individual freedom to pursue our own ends, frame our own beliefs and convictions and act in what we perceive to be our own self-interest; and from the proper role of government as it directly affects the lives of its citizens and their interaction with each other.

Perhaps the most emotional life and death dilemma we face is the one concerning newborns who cannot speak in their own defense, who cannot challenge our assumptions about "meaningful" life and whose "lives" are unknown and unpredictable when parents and physicians are faced with the crucial question of whether to provide "extraordinary" or "heroic" care. Fortunately, most of us do not have to face that decision. Those who have faced it have decided, based on their own strength or weakness, and up to now, society has not participated or interfered.

Life and death, abortion rights, death with dignity, euthanasia and capital punishment all stimulate our deeply felt passions and our views of them are often rooted in our moral, ethical or religious heritage. Discussions of them or essays about them frequently lead down a path which leads to righteousness or unalterable conviction, leaving broader society befuddled and impotent to set rational standards or reflect societal norms.

The Hartford Courant published a series of five articles by Diane Broszek which discussed life and death decisions concerning newborns. Although the articles served the public by focusing attention on issues which many would prefer to avoid, they also contained controversial and inflammatory language which might impede an acceptable resolution of the issues.

Confronted with published materials which questioned the propriety of decisions made by doctors and parents in newborn special care units, the Department of Health Services sought to carry out its obligation to the public.

First, staff reviewed all deaths of infants in the Newborn Special Care Unit of the Yale-New Haven Hospital from January 1, 1981 to June 30, 1981. Our review did not reveal any impropriety in any of those fifty-eight deaths. No infants were denied nourishment. Most died in spite of heroic intervention. Decisions to remove life sustaining support were made only after full consultation with parents and when continued intervention was clearly fruitless.

Thereafter, in consultation and cooperation with the Public Health Committee of the State Legislature, a broad based study of treatment choices with respect to critically ill infants was conducted. The study concentrated on infants with Down's Syndrome and spina bifida, decisions to withhold nourishment or overmedicate, and hospital policies and procedures involving the decision making process. The methodology employed by staff in the study included the following:

1. Review of formal hospital policies;
2. Search of existing literature;
3. Specific inquiry to other states, private foundations, the special Presidential Commission on Death and Dying and medical, nursing and social work schools;
4. Interviews with administrators and professional staff of hospitals, community pediatricians, representatives of advocacy groups for the mentally retarded and the handicapped and other interested parties;
5. Interviews with parents who had confronted the

problem of continuing or terminating extraordinary medical intervention; and

6. Review and analysis of the circumstance of death of certain infants who died within six months of birth and who were born with some apparent abnormality.

The staff who worked on this project included physicians, nurses and social workers and the study drew upon their many years of experience reviewing care provided to mothers and children at or near birth.

Although this report does not purport to answer the myriad questions raised by those who are interested in this subject, it does organize issues, define a legitimate role for government and indicate some direction which we believe would be proper for the State and our health care institutions to take. In so doing, we hope to lift the veil of confusion and lend some light to a subject usually dominated by heat.

One last *caveat*—to the extent possible we have tried to avoid "weighted" words although we intend our approach to be direct. Unfortunately, only gifted poets can approximate deep feeling in written words. The staff and *everyone* to whom we spoke share a deep personal commitment to sustain life. All regret and agonize over decisions which affect the lives of others. Readers should not be deceived by the impersonal nature of a government report.

Profile of a Neonatal Intensive Care Unit—Its Patients; Successes and Failures

Neonatal intensive care units have been in existence throughout the United States for about a quarter of a century. Connecticut has four intensive care units for newborns: University of Connecticut Medical Center, Consortium of Hartford Hospital, Yale-New Haven Hospital, and Bridgeport Hospital. These units are designed to care for the sickest of newborns. In September of 1981, the New England Journal of Medicine published an article which gives us some insight into characteristics of children served by them.[1]

Approximately 3% of live births in the United States need this intensive level of care (estimated to be 100,000 infants annually). The primary objective of the unit is to sustain life through a critical period and a secondary objective is to prevent permanent damage or disability which might otherwise result from the infant's condition. While this study has concentrated on treatment choices relating to children born with permanent disability of some sort, we should keep in mind that newborn intensive care units treat a much wider spectrum of patients. The New England Journal of Medicine article contains a useful summary of typical high risk infants:

> "Typical indications for admission of newborns to intensive care units include low birth weight . . . ; birth asphyxia; respiratory distress of any cause . . . ; neonatal infections; metabolic disturbances . . . ; convulsions or other neurological disorders; congenital malfunctions; and other important neonatal diseases . . . ."[2]

A study of costs of neonatal care which appeared in *Pediatrics* journal in September of 1981[3] divided typical patients into different diagnostic categories:

> "We divided the patients in the study into six mutually exclusive diagnostic categories based on the major type of medical problem present:
>
> 1. *Primary - Medical* included infants with medical problems which required no surgery or only minor surgical procedures . . . .
> 2. *Cardiac - Medical* included infants with primary cardiac problems that required only medical management.
> 3. *Anomaly - Medical* included patients who had major anomalies other than cardiac malformations that were managed medically.
> 4. *Medical - Surgery* included patients with a medical condition as the primary diagnosis, but who had complications that required major surgery . . . .
> 5. *Cardiac - Surgery* included infants who required surgery for a cardiac lesion other than an isolated patent ductus arteriosus.
> 6. *Anomaly - Surgery* included infants with major malformations other than cardiac that required surgical corrections."[4]

The total sample of this study was 1,185 infants and of those only 8.4% (100) were in the categories involving birth anomalies. Infants with anomalies tended to require longer periods of care. Eighteen (18%) of the infants with anomalies died. The death rate for the total sample was 11.2%. (The sample selection process excluded infants weighing 500 gm (1 pound) or less and those with unknown birth weights or incomplete records).[5]

Dr. Joseph Warshaw's[6] testimony to the Public Health Committee on October 22, 1981, confirmed that the experience at the Yale-New Haven Hospital unit reflected the pattern of these studies. We must bear in mind, as we approach the question of the appropriate remedy to the ethical dilemma of life and death choices for children born with anomalies and cared for in the newborn intensive care unit, that we are concentrating our energies on an extremely small percentage of our population. Sampling and investigation by the Department of Health Services also confirms Dr. Warshaw's representation that the absolute number of cases where care or feeding may have been withheld or withdrawn is extremely small.

Furthermore, our study revealed practically unanimous agreement that circumstances exist in which withholding or withdrawing extraordinary care is appropriate for devastated infants in newborn intensive care units. Responding to my specific inquiry, Robert

M. Veatch of the Joseph and Rose Kennedy Institute of Ethics, Center for Bioethics said,

> "Unfortunately, it seems that it must be the case that it is occasionally appropriate for parents to decide that it is in the best interests of an infant to withhold certain treatments."

We are left to determine what the limits of appropriateness are and who decides.

The Decision to Withhold Care: When? What Kind of Care? By Whom?

The Broszek articles in the Hartford Courant and the discussions of the Legislative Interim Study Committee have concentrated on life and death questions related to infants born with spina bifida and Down's Syndrome.

In fact, the conditions in newborns which prompt the agonizing decisions in which treatment or support is abandoned are more frequently those cases where the infant is devastated at birth by low birth weight, oxygen deprivation, congenital or genetic anomalies other than spina bifida or Down's or, more commonly, a combination of these factors. Some other examples of infants who have an extremely poor life or health prognosis are those with no cerebrum or mid-brain (anencephaly), no kidneys (Potter's disease), or vital organ (heart, lungs, intestine) functioning which would support only a basal physiological life (trisomy 13-15 or 17-18). Infants severely affected with Down's Syndrome and meningomyelocele (spina bifida) and who present the same life and health prognosis as the more devastated infants listed above legitimately raise questions of the extent to which doctors and facilities should go to sustain life.

The word "extraordinary" when applied to the decision to withhold care from a devastated infant draws its meaning from the context of the medical life prognosis. For the purposes of this report "extraordinary care" which might be withheld will mean surgical, medical or therapeutic intervention which may tend to sustain or extend life but is expected to have little or no impact on the underlying life-threatening or debilitating condition. If we accept this definition, "extraordinary care" might range from intravenous feeding to complicated open heart surgery.

Pediatric and neonatal services in Connecticut's hospitals have not attempted to define policies and procedures to govern the delicate decision-making process. Although the record keeping in neonatal units has improved substantially in the past five years, the standard is widely variable from unit to unit and undefined in hospital policies. As our ability to "save" the lives of infants who are seriously threatened at birth improves, the dilemma presented by these issues will appear more frequently under a broader range of circumstances. The need for our physicians, medical staffs and institutions to confront them directly and establish policies in advance is even more urgent. Once policies are adopted, formal in-service programs and monitoring systems should be established to assure the public that the standards are known to the responsible staff and faithfully observed by them.

Although policies are not written, our extensive review[7] of the actual practice of Connecticut's pediatric and neonatal providers revealed that actual practices are remarkably consistent throughout the state.

Generally speaking, the team of providers (physicians, nurses, social workers) working with a devastated child in the neonatal intensive care unit and the family of the child consult continually about the patient's condition. Observation, testing and medical judgment provide the basis for the physician to make decisions as to prognosis for life, the condition of the patient while alive and intervention which is necessary or appropriate to sustain the life of the patient, to resolve presented conditions or to assure the comfort of the patient. Those decisions become recommendations to parents for the treatment of their infant.

The parents then consider these recommendations in light of all of the information provided to them related to the condition of their infant. Although the providers are improving continuously in the knowledge of support resources, all parties interviewed felt that our society and the providers have not done enough to communicate information necessary for decision-making to the parents. Providers may choose not to discuss some considerations because of their concern about the capacity of distraught parents to comprehend and absorb complex and technical information; however, the most frequently cited insufficiency derives from preconceptions held by the physicians and parents about the quality of life of handicapped individuals. Providers should make additional efforts to be fully informed on the availability of community support resources and, if necessary, should present only a nonjudgmental characterization of the quality of life which might result from a given handicap. Volunteers familiar with certain handicapping conditions should be recruited to consult with parents when such consultation is requested.

Since the ultimate decision on treatment rests with the parent, and since providers generally accept parental decisions, the following possibilities are present:

1. Provider recommends treatment and parent agrees;
2. Provider recommends against treatment and parent agrees;
3. Provider recommends treatment and parent refuses; and
4. Provider recommends against treatment and parent insists on treatment.

The second alternative may result in inappropriate decisions or even abuse. Such decisions should be controlled by specific, written policies and rigorous internal review. The third alternative presents a continuing problem. The general practice in Connecticut in the case of a devastated infant is for the provider to accept the parental decision and discontinue or withhold extraordinary treatment up to the time of discharge. In some instances physicians have withdrawn from such a case or the infant has been transferred to another facility to carry out parental wishes. In the course of the Department of Health Services study, one circumstance was identified in which parental wishes to discontinue and withhold treatments was apparently disregarded and treatment was continued. All providers acknowledged the possibility that a parent of a handicapped infant might make a clearly unjustified decision on treatment and that such a case would merit third party intervention, but none could cite any example. Provider policies should include definition of those circumstances for which third party legal intervention would be appropriate.

The summary of our review of eighteen deaths in 1980 and two Down's Syndrome cases cited in Dr. Warshaw's testimony to the Public Health Committee are attached hereto as Appendix A. Although information is scanty and definitive evidence to support prosecution would be difficult to obtain, two cases from among the twenty have been referred to the State's Attorney for review.

Legal Recourse Available in Connecticut

A. *Civil.*

Third party intervention in a case in which inappropriate decisions not to treat have been made is currently provided for in State Statutes Section 17-38a of Connecticut General Statutes. Subsection (b) of that Statute requires that incidents of abuse be reported in language that clearly includes decisions made in newborn intensive care units.

> "Any physician . . . or intern . . . and registered nurse, licensed practical nurse . . . social worker . . . clergyman . . . who has reasonable cause to suspect or believe that any child under the age of eighteen . . . is in a condition which is the result of . . . malnutrition . . . deprivation of necessities . . . or has been neglected as defined by Section 46b-120 shall report. . . . Any person required to report under the provisions of this section who fails to make such report shall be fined not more than five hundred dollars."
>
> Section 46b-120 defines a "neglected" child as one who ". . . is being denied proper care and attention . . . ." If, upon investigation of such a report, the State of Connecticut determines that a child is being abused, it has the power to seek custody of the child and thereby the right to make care related decisions.

B. *Criminal.*

Since the question with which we are dealing involves life and death, the possibility of a homicide prosecution against parents, doctors and professional staff is always present as is prosecution for conspiracy to commit homicide among all of the parties. Without indulging in a legal treatise on the different grades of homicide, we must acknowledge that in Connecticut, the penalty sought by such prosecution, if successful, might range from accelerated rehabilitation to twenty-five years to life in prison.

At a less serious level, other statutes might serve as the basis to prosecute a provider or parent who chooses to deprive an infant of necessary care.

> "Section 53-20. *Cruelty to persons.* Any person who . . . deprives any person . . . of proper physical care . . . shall be fined not more than five hundred dollars or imprisoned not more than one year or both."
>
> "Section 53-21. *Injury or risk of injury to . . . children.* Any person who wilfully or unlawfully causes or permits any child under the age of sixteen years to be placed in such situation that its life or limb is endangered or its health is likely to be injured . . . shall be fined not more than five hundred dollars or imprisoned not more than ten years or both."

If the State's Attorney felt prosecution were appropriate in a case involving care withheld or withdrawn from an infant, he would have a basis for such prosecution in existing statutes.

C. *Current Reality.*

In spite of the availability of both civil and criminal recourse for malfeasance in matters involving care withheld from infants, those remedies are not used in Connecticut. Although isolated cases in a few states have generated interest and concern in recent years, for the most part, society has chosen not to intrude on decisions made by providers and patients.

Given the extent of utilization of existing remedies which are clear and unambiguous, the value of legislation which creates duplicative or additional remedies is questionable.

Factors Which May Influence Infant Treatment: Is There a Better Way; and Who Can We Trust?

When the doctor approaches us with a choice of treatment for ourselves and seeks our "informed consent" to a certain procedure, we weigh the questions according to factors important to us and we are responsible for our own decisions. When the doctor approaches us with a treatment choice concerning a newborn son or daughter, we cannot ask what the patient prefers, and we inevitably consider factors important to us. That fact is the source of the concern which leads some to conclude that the unfettered right of parents to determine an infant's fate is unjust.

The bibliography which accompanies this report includes many papers which discuss aspects, other than the interests of the infant, that are involved in decision making (e.g., economics, philosophy, psychological and social factors). Before reaching the conclusion that the mutual decision of physician and parent insufficiently protects the infant's interest, we must identify other potential alternatives and conclude that whichever alternative is chosen will not be misled by the same distortions.

This report would not be served by a full discussion of these factors; however, an interested reader would find much food for thought and discussion from the materials listed in the bibliography. Some frequently suggested alternatives to physician/parent decision making, limited by third party intervention in extreme cases, are:

1. A special commission in the provider institution, made up of various disciplines, but removed from the emotion of direct involvement with the infant and family;
2. A special and independent commission or review board, existing in the community for that sole purpose;
3. The state acting through the judicial branch;
4. The state acting through the executive branch (Departments of Children and Youth Services, Human Resources and Health Services); and
5. The state acting through the establishment of specific legislative controls.

A cursory review of the many factors other than medical prognosis and available technology which might influence a parent's choice will help us determine whether the above alternatives are preferable in that they may reduce these distractions from the infant's best interest.

A. *Economic Factors.*

Both society and the families which comprise it must deal with problems of "scarcity" in the treatment and care of critically ill infants. The State of Florida health system has denied treatment because facilities were not available. State support to pay the bills of the medically indigent is being threatened by a shrinking federal budget. The daily cost of care in a newborn intensive care unit and the average cost for care rendered to a patient in such a unit are clearly unaffordable by the average American family.[8]

Governments will establish priorities to allocate limited resources. For example, in this State we have recently eliminated our flouridation program. The Federal Government has reduced its commitment to the Maternal and Child Health program, school nutrition programs, the food stamp program and genetic diagnosis and counseling program.

Parents may have to choose between caring for a devastated infant and maintaining food, shelter and clothing for the rest of the family.

No one reviewing or making these decisions will be able to ignore economic considerations of some kind. Different levels of significance attached to economic considerations will vary with the individuals applying established procedures rather than the procedures themselves.

B. *Moral, Religious and Ethical Considerations.*

Most of the literature on the subject of this study derives from a moral, religious or ethical vantage point. The number of different attitudes reflected is equal to the number of authors writing on the subject. In fact, each author is likely to have two views—one expressed as a dispassionate, distant analysis based on principle, and one deeply felt when confronted personally with the agonizing choice.

A considerable range of reflections and ideas can be found among the materials in the bibliography.

Again, the force of moral, religious and ethical considerations will vary with the people applying procedures, not with procedures themselves. We find no reason to anticipate a significant change by substituting some other system for parental decision controlled by physician review, unless we also impose a specific moral, religious or ethical standard in place of medical practice.

C. *Psychological and Social Factors.*

Included within this heading are emotions such as guilt and fear, feelings of inadequacy and failure; and the expected isolation from family and friends based on an irrational sense of shame or simply the time and energy necessary to care for the child.

All of these factors are more likely to strike the parents of the infant than a professional or dispassionate reviewer. However some of these factors would tend to restrain the parent from a decision to withhold or withdraw care rather than encourage him or her to it. This double-edged sword is what makes the physician control on parental decision-making so important. While physicians should never terminate life-sustaining care to an infant except at the direction of parents, they must meet their obligation to intervene if the parental decision is inappropriate. While this statutory obligation extends to all professionals in a newborn intensive care unit,[9] the ultimate responsibility to seek intervention in the case of inappropriate parental decision rests with the physician. In order to meet it, physicians must be aware, personally or through their staff, of the implications of handicaps and the availability of community support resources.

Physicians and hospitals will automatically seek judicial intervention to give blood transfusions to a child of a member of Jehovah's Witness family. The same personnel resist intervention in the case of a critically ill infant probably because outcome is uncertain and, unless the state intervenes and takes custody of the child, the parents might be hostile and unwilling providers, a circumstance which will be difficult for the family and the child.

Another layer of intervention and review is not likely to alter the underlying reluctance of today's society to interfere with the parental decision. Our interviews with parents who have faced such a decision (see summary attached as Appendix B) confirmed the dominant impression that the existing *ad hoc* system is preferable, but that greater efforts should be made by providers to be more informative at the time the decision is made.

We should note that the majority of parents to whom we spoke elected to continue treatment and although substantially burdened, are content with the decision. Unfortunately, we were able to talk with only one parent who decided to withhold or withdraw treatment.

D. *Handicapped Discrimination.*

The dominant issue stimulated by the Broszek articles has been whether the decision to withhold or withdraw care is made due to the inability of certain parents and physicians to cope with handicaps afflicting their children or patients; and, if so, does the act of denying treatment constitute discriminatory denial of care and treatment solely on the basis of a handicap.

Clearly, a decision to deny care which is based on a visceral reaction to a handicap rather than a specific medical or life prognosis is inappropriate *and illegal.*[10] Such a decision is possible under our current procedures because they are informal and variable among individuals; they are not subject to internal review; doctors and staff may be unfamiliar with available community services for handicapped children; and individuals who are experienced in the care of the handicapped and knowledgeable about the quality of life to be lived by the handicapped are not made available for consultation with the decision makers.

To avoid discrimination against the handicapped, specific policies and procedures must be written and adopted; internal review mechanisms should be in place prior to implementation of a decision; and staff must be fully informed on resources available for the handicapped and to counsel parents of handicapped infants.

Discussing these issues three decades ago, R. Firth suggested an "ideal observer" theory which posited an observer with the following qualities to make these decisions:

"1. *Omniscience,* that is, access to all scientific and relevant facts;
2. *Omnipercipience,* that is, ability to imagine vividly the feeling of others;
3. *Disinterest,* that is, no vested interest or personal involvement;
4. *Dispassion,* that is, not being overwhelmed with emotion; and
5. *Consistency.*"

No such observer exists. Society is left to approximate it. We have done so by evolution, reaching our current position in which:

1. A team of professionals examines the infants, reaches medical conclusions and advises the family unit;
2. Based on "informed" or "educated" consent (that elusive concept of full knowledge), the family unit (parents, in this instance) elects to treat or not; and
3. Professional staff seeks third party intervention when it believes the family decision is inappropriate.

This system must continue to grow and develop and we must be faithful to it if the society is to protect the interests of newborns. Suggestions for improvements within the provider community have been made throughout this study.

The Proper Role of Government

As a result of the indepth examination of care withheld or withdrawn from newborns, the Department of Health Services has reached the following conclusions:

1. The state, acting through the legislature, should not attempt to define or interfere with medical practice;
2. The state, acting through the legislature, cannot establish ethical or moral standards for its citizens to observe, because of the enormous variety of personal feelings on the subject which are present in our society. Such laws would be ignored and ineffective; and
3. The number of occasions in which care is withheld or withdrawn from newborns is so small that the need for governmental intervention is questionable.

On the other hand, there are many occasions for society to act in a way which will reduce the number of devastated infants born (thereby reducing the incidence of withdrawn or withheld care) and protect and improve the lives of all children and infants.

1. In Connecticut, although infant mortality has decreased, it is still twice as high for *non-white babies:* 7% of babies statewide and 10% in urban areas are low birth weight, born weighing 5½ pounds or less, placing them at risk for birth injuries and developmental disabilities. Approximately 10-15% of pregnant women still do not seek prenatal care in the first trimester of pregnancy. Only 50% of mothers, infants and children possibly eligible are receiving supplemental food benefits.
2. Sufficient appropriations have not yet been made to implement the coordinated program of Health and Education to identify all children from birth to age three (3) with handicaps which will require

them to receive special education.

3. The Connecticut Registration Reports for 1976 through 1978 show that accidents and violence accounted for 70.4% of deaths in the 10-19 year old age group, 45.3% of deaths in the 5-9 year old age group and 38.6% of all deaths in the 1-4 year old age group. The figures do not reveal the incidence of permanent handicaps and disabilities as a result of accidents.
4. In calendar 1978, 616 children four (4) years of age and less were injured as occupants in motor vehicle accidents in Connecticut. A study of these injuries revealed that there was a 22.7% decrease in injuries for children restrained over those not restrained. Restrained occupants in the rear seat suffered *51.2%* less injury than unrestrained occupants. And yet a law requiring car restraints for young children has yet to pass the General Assembly.[12]
5. Bridgeport and Waterbury, two cities with federal grants for lead paint poisoning programs, still have a significant percentage of children with increased body burden of lead. The state laboratory for fiscal 1981 reported that 306 out of 26,218 children tested showed abnormal blood lead levels.
6. According to the Department of Children and Youth Services statistics for fiscal 1980 there were 10,180 cases of suspected abuse, neglect and/or sexual abuse reported with seven (7) deaths at the hands of parents or caretakers. In 1981 there were seven (7) such deaths in Hartford alone.
7. The state Hearing Screening Program reaches only 11,000 preschool children. It is unknown how many of the remaining 126,000 children ages three (3) to six (6) years are screened.

As we, acting as a society, choose to devote our time, energy and resources to protecting the best interests and maximizing the life potential of all infants and children, we should keep our basic and realistic objectives firmly in mind. As a point of departure and discussion, we suggest that the following objectives might provide a foundation for policy and action:

1. Infants should be born to healthy mothers;
2. Infants should be born well;
3. Infants and children should have access to high quality health care systems, including secondary and tertiary care; should be protected from major social diseases; and should be immunized against infectious disease;
4. Infants and children should have adequate and appropriate food;
5. Infants and children should have opportunity for broad educational experience;
6. Infants and children should live, learn and play in a safe environment; and
7. These objectives should be sought without regard to race, color, creed, sex, place of residence, economic status or mental or physical handicap or disability.[13]

With these objectives in mind, society, acting through its government, should pursue aggressively its collective best interest, using its time, energy and resources in the most effective and productive way possible.

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4. Ibid at p 314
5. Ibid at p 316 (Table 3)
6. Dr Warshaw is the Director of The Newborn Special Care Unit at The Yale-New Haven Hospital
7. The field of our survey was:
    1) Record review of all deaths in the Yale-New Haven Newborn Special Care Unit from January 1, 1981 to June 30, 1981
    2) Record review of 18 deaths of infants between the ages 6 days and 6 months during the calendar year 1980, selected on the basis of information appearing on the death certificate
    3) Record review of two Down's Syndrome infants referred to by Dr Joseph Warshaw in his testimony to the Public Health Committee of the General Assembly and
    4) Interviews with nurses, social workers, physicians, hospital administrators and parents
8. See note 3 above
9. Connecticut General Statutes, Section 17-38a(b)
10. Connecticut General Statutes, Section 53-21
11. Firth R: Ethical absolutism and the Ideal Observer. Journal Philos Phenomen Res 12, 317, (1952)
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13. This statement of objectives heavily relies on, but is not identical to, the position statement on the priority needs of children developed by the American Academy of Pediatrics and adopted by the Connecticut Chapter of that academy

Appendix A

The following report results from the review of hospital records of infants. The records of twenty infants, involving care delivered by eleven hospitals across the state, were reviewed. For ease of discussion, the cases reviewed are grouped as follows:

I. Infants whose medical condition at birth was incompatible with life longer than several weeks to a year. While life support systems might have sustained life for a short while, heroic measures could not have corrected these conditions to significantly extend the lives of these infants.

II. Infants whose condition at birth was incompatible with life because of a specific condition which might have been surgically corrected to extend life indefinitely.

III. Infants whose lives might have been sustained indefinitely with the assistance of various life support systems, but only if these systems were maintained.

IV. Infants not requiring life support systems to sustain life, but who, because of their medical condition, had a variably short or long life expectancy.

Group I (seven cases)

Each infant in this group suffered from genetic and/or cardiac congenital anomalies which experientially are known to be fatal within the first year of life. In each of these cases, the records reviewed indicated that once the diagnosis was clearly established, the diagnosis and prognosis were discussed extensively with the parents. Subsequently, with the exception of one case, a mutual physician/parent decision was made to withdraw or to withhold extraordinary measures which would have prolonged the inevitable death. (In one case, the record indicated significant difficulty on the part of the parents in accepting a medical decision to discontinue the respirator. It was not clear in the record whether parent approval or disapproval was ever established prior to such discontinuance). The kinds of extraordinary measures withheld or withdrawn in these cases included artificial respiration and/or resuscitation. Nourishment, antibiotics and other support services were continued for these infants to provide comfort only. Instances were observed when morphine sulfate was given for "irritability." The doses appeared to be consistent with the American Academy of Pediatrics guidelines.

Group II (six cases)

Two of the infants identified in this group had correctable congenital heart anomalies. One of these infants died of an unrelated cause subsequent to corrective surgery. The other died during cardiac catheterization.

Two other infants had multiple congenital anomalies involving one or more organs and body systems and including intestinal and neurological dysfunction in varying degrees. Although individual physical anomalies were treatable, with resultant varying prognoses, a physician/parent decision was made to withdraw/withhold treatment and active support, including intravenous fluids which provided nourishment. Alternative nourishment was then offered orally "as tolerated" to one of these infants. Although this infant died of "malnutrition," it is not known whether this was due to lack of adequate intake or to intestinal dysfunction. The second infant was provided no nourishment in any form and subsequently died of dehydration.

Two were Down's Syndrome infants whose cases are summarized as follows:

Case #1. The low birth weight,full term infant was transferred from another hospital on oxygen support. Problems noted early on included physical signs of Down's Syndrome, heart defect (probable AV canal), and probable duodenal stenosis. (The heart condition was operable, but with a high mortality rate.) The infant was prepared for duodenal surgery, however the parents chose not to perform surgery. The mother did not want the baby to suffer or to ruin the lives of their other children. The parents requested that the hospital not get in touch with a parent-support group as had been suggested by a social worker. A physician-supported, subsequent parent decision was made to discontinue all support. A statement signed by the parents appeared in the record which stated their decision against abdominal surgery and their decision to withdraw "medical support" and their understanding of the "full meaning of this decision."

All "support" was discontinued on the fourth day of life, including oral feedings (which were not feasible) and intravenous nourishment. These activities were substantiated by doctors' orders and nurses' records. At death (at 23 days old) the infant showed a substantial weight loss from birth.

Case #2. This severely premature infant required suctioning for resuscitation. The infant had various physical features consistent with Down's Syndrome. A genetic consult confirmed the probability of Down's. A surgical consult revealed probable duodenal atresia. There were several instances of bradycardia (slow heart rate) beginning on the first day of life. On the third day of life, the parents made a decision to "let nature take its course" and opted for "non-active intervention." The medical record, as reviewed, revealed no physician orders on the third or fourth days of life, however, other records indicated that the IV line (which included nourishment), antibiotics and other support were withdrawn on the third day. The infant died on the fourth day, following increasing episodes of bradycardia.

Group III (five cases)

One infant in this group had no congenital anomalies, but suffered from severe multiple physiological and medical problems (i.e., cardiorespiratory) in addition to being severely premature. The guarded prognosis of the infant caused the parents to choose withdrawal of mechanical ventilation and all other treatments, resulting in immediate death.

The other four infants had multiple congenital anomalies and physiological and medical problems including varying degrees of cardiorespiratory and/or neurological deficiencies. (An infant with Down's Syndrome was included in this group.) Physician/parent decisions were made to withhold or withdraw artificial means of respiration from these infants apparently based on prognoses of poor quality lives with complications requiring continuing extensive support.

Group IV (two cases)

These were cases of perinatal and neonatal asphyxia resulting in serious brain damage and related complications. In both cases the infants became stable during their hospital stays. They were both able to breathe room air and to be fed by mouth. (A parent/physician decision had been made regarding one of these infants to discontinue tube feedings and feed only by mouth on demand with the expectation that this course would result in death. In the case of the second infant, extraordinary medical treatment was provided to the infant, apparently against the wishes of the parents). Both infants were discharged home, one with phenobarbitol support, and subsequently died at home of cardiorespiratory arrest.

All of the infants, across the four groups described, required oxygen, resuscitation and/or other extraordinary measures upon delivery in order to obtain or sustain life. Medications, IV therapy and antibiotics were provided when needed. No case was identified in which drugs were used to hasten death. Laboratory testing, X-rays, CAT scans and other ancillary services were abundantly provided to help in clearly establishing diagnoses and in monitoring the infants' conditions. Cardiac, genetic, urologic, neurologic, surgical and other specialty consultations were performed in the assessment and care of these infants. All required extensive support and constant monitoring during their short lives in order to be maintained. Although there was no indication in any case in Group II, III or IV that, as long as medical intervention continued, death was imminent, in most of these cases it was obvious that prolongation of life would have been a constant medical battle even with the most extraordinary efforts.

Records generally indicated continuing dialogues among patients, social workers, pediatricians, specialist consultants, nurses, clergy (rarely), other family members, etc. concerning the infants' prognoses and possible courses of treatment and care. Notes such as "Plan is to not ventilate the infant . . . . The parents accept this plan," "little chance of even a remotely normal life," "multiple surgery and maximal family support and medical care will be required to achieve a reasonable life," "not a candidate for ventilatory assistance," "no extraordinary measures to resuscitate," "family aware of medical, ethical, and legal status," "decision to be made by parents" were observed in the medical records. In most cases, it was clear from the record that the parents actively and consciously (and in some cases, aggressively) chose a course of non-treatment following consultation with the medical staff. Rare instances were observed in which it seemed as though the parents were being guided into such a choice. In every case, however (with the possible Group I exception discussed earlier) the final choice of treatment was agreed upon by both physician and parent.

Articles in the Hartford Courant which precipitated this investigation by the Department of Health Services referred to cases in which infants were starved or overdosed at home. In three of the twenty cases reviewed, the infant died at home. Our review of hospital records did not provide enough information to either prove or rule out any malfeasance after discharge from the hospital. However, there appears to be a high possibility that active euthanasia was involved in at least one of these cases.

Inter-hospital Comparison of Medical Records and Treatment Decisions

First of all, it must be noted that a sample size of twenty is small upon which to base any meaningful comparative statements either between or within hospitals. Also, we are comparing cases from smaller obstetrical units in some hospitals with those of large neonatal intensive care units.

No inconsistencies from one hospital to another were identifiable in overall decision-making processes. From our review, it would appear that in every hospital in which we reviewed records, selective life/death decisions, involving withdrawal or withholding of treatment, were being made by physicians and parents on a case by case basis.

Records in some units included extensive social service notes and/or reference to social service involvement while others made no mention of social service input at all. Physician and nursing notes varied in comprehensiveness. Most, but not all, included remarks concerning parents' emotions, input, etc. Some instances were identified where the actual care plan was not explicit. At the extreme, some records at one institution included signed statements by parents that it was their decision to withdraw treatment even though death would necessarily follow.

Appendix B

Interviews with Parents

Ten parents were interviewed who had made decisions of the type in question. Nine had made decisions to sustain life. Of these, all are loving parents who are now very devoted to their handicapped children and eagerly express their positive feelings about the values of raising these children. Most of them maintain that they would make the same decision today if faced with it again. However, others said they are not certain that today they would make the same decision to treat and sustain life. All but one maintained that, along with the positive aspects, however, there are many burdens and disruptions necessarily assumed in raising such a child. Mainly these were: significant financial burden, effect on marriage, and a drain on time, energy, and emotions.

One set of parents whose newborn had multiple physical anomalies, including meningomyelocele, had made a decision not to surgically close the baby's spine. The baby was institutionalized and died within one month. The mother is now not entirely sure that the right decision was made, however she still firmly believes that the parent/physician process of decision-making is appropriate.

Six of the ten parents strongly oppose any legislation in this area, and feel that these decisions should remain with the parent, following informed counseling. (Many offered their discontent with the recent Illinois—Siamese twin issue which overturned the parents' decision to withhold treatment). Most of the parents interviewed said that their physicians had not been appropriately informed and aware of the conditions and possible outcomes about which they were counseling the parents at the time of decision-making. They feel that physicians need to be better prepared 1) to initially inform parents of the condition of the infant (beside manner), 2) to advise them of the probable and possible prognoses and various manifestations, both positive and negative, and 3) to discuss alternative care and management, training, etc. Also, they feel that when the choice is made to treat and save the infant, whereas early intervention is essential (i.e., special training and therapy), it is often inadequate and/or too late.

Many parents expressed great concern as to the "power" of the physicians in controlling these cases, i.e., "The mothers and fathers become pawns—just laymen who can't cope." Although they all admit that their mental condition may not have been the greatest upon learning the devastating news of their infant's condition, parents need to have as much unbiased, comprehensive information possible presented to them, as well as informed consultation, to aid them in the decision-making process.

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Robert W. Shreve, M.D., Physician Consultant, Hospital & Medical Care Division

Estelle Siker, M.D., Director, Community Health Division

Ken Smith, MSW, Chief, Public Health Social Work Section

Mary Wilson, Automated Data System Operator, Hospital & Medical Care Division

Federal Trade Commission Issues Final Order Against American Medical Association

UNITED STATES OF AMERICA

BEFORE THE FEDERAL TRADE COMMISSION

COMMISSIONERS: James C. Miller III, Chairman
David A. Clanton
Michael Pertschuk
Patricia P. Bailey

In the Matter of

THE AMERICAN MEDICAL ASSOCIATION,
a corporation,

THE CONNECTICUT STATE MEDICAL SOCIETY,
a corporation,

THE NEW HAVEN COUNTY MEDICAL
ASSOCIATION, INC.

May 19, 1982

DOCKET NO. 9064

Modified Order to Cease and Desist

Respondents having filed in the United States Court of Appeals for the Second Circuit a petition for review of the Commission's cease-and-desist order issued herein on October 12, 1979; and the Court having rendered its decision and judgment on October 7, 1980, affirming and enforcing the Commission's order with modification of Parts I and II; and the Supreme Court of the United States having affirmed by an equally divided court the judgment of the court of appeals on March 23, 1982, and having denied a petition for rehearing on May 3, 1982:

NOW, THEREFORE, IT IS HEREBY ORDERED, that the aforesaid order to cease and desist be, and it hereby is, modified in accordance with the decision and judgment of the Court of Appeals to read as follows:

Order

I.

IT IS ORDERED that respondent American Medical Association, and its delegates, trustees, councils, committees, officers, representatives, agents, employees, successors and assigns, directly or indirectly, or through any corporate or other device, in or in connection with respondent's activities as a professional association in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from:

A. Restricting, regulating, impeding, declaring unethical, interfering with, or advising against the advertising or publishing by any person of the prices, terms or conditions of sale of physicians' services, or of information about physicians' services, facilities or equipment which are offered for sale or made available by physicians or by any organization with which physicians are affiliated;

B. Restricting, regulating, impeding, declaring unethical, interfering with, or advising against the solicitation, through advertising or by any other means, including but not limited to bidding practices, of patients, patronage, or contracts to supply physicians' services, by any physician or by any organization with which physicians are affiliated; and

C. Inducing, urging, encouraging, or assisting any physician, or any medical association, group of physicians, hospital, insurance carrier or any other non-governmental organization to take any of the actions prohibited by this Part.

Nothing contained in this Part shall prohibit respondent from formulating, adopting, disseminating to its constituent and component medical organizations and to its members, and enforcing reasonable ethical guidelines governing the conduct of its members with respect to representations, including unsubstantiated representations, that respondent reasonably believes would be false or deceptive within the meaning of Section 5 of the Federal Trade Commission Act, or with respect to uninvited, in-person solicitation of actual or potential patients, who, because of their particular circumstances, are vulnerable to undue influence.

II.

IT IS FURTHER ORDERED that respondent American Medical Association, and its delegates, trustees, councils, committees, officers, representatives, agents, employees, successors and assigns, directly or indirectly, or through any corporate or other device, in or in connection with respondent's activities as a professional association in or affecting commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from:

A. Restricting, regulating, impeding, advising on the ethical propriety of, or interfering with the consideration offered or provided to any physician in any contract with any entity that offers physicians' services to the public, in return for the sale, purchase or distribution of his or her professional services, except for professional peer review of fee practices of physicians;

B. Restricting, interfering with, or impeding the growth, development or operations of any entity that offers physicians' services to the public, by means of any statement or other representation concerning the ethical propriety of medical service arrangements that limit the patient's choice of a physician;

C. Restricting, interfering with, or impeding the growth, development or operations of any entity that offers physicians' services to the public, by means of any statement or other representation concerning the ethical propriety of participation by non-physicians in the ownership or management of said organization; and

D. Inducing, urging, encouraging, or assisting any physician, or any medical association, group of physicians, hospital, insurance carrier or any other non-governmental organization to take any of the actions prohibited by this Part.

III.

IT IS FURTHER ORDERED that respondent American Medical Association cease and desist from taking any formal action against a person alleged to have violated any ethical standard promulgated in conformity with this Order without first providing such person with:

A. Reasonable written notice of the allegations against him or her;

B. A hearing wherein such person or a person retained by him or her may seek to rebut such allegations; and

C. The written findings or conclusions of respondent with respect to such allegations.

IV.

IT IS FURTHER ORDERED that respondent American Medical Association:

A. Send by first class mail a copy of a letter in the form shown in Appendix A to this Order to each of its present members and to each constituent and component organization of respondent, within sixty (60) days after this Order becomes final.

B. For a period of ten years, provide each new member of respondent and each constituent and component organization of respondent with a copy of this Order at the time the member is accepted into membership.

C. Within ninety (90) days after this Order becomes final, remove from respondent American Medical Association's *Principles of Medical Ethics* and the Judicial Council's *Opinions and Reports,* and from the constitution and bylaws and any other existing policy statement or guideline of respondent, any provision, interpretation or policy statement which is inconsistent with the provisions of Parts I and II of this Order and, within one hundred and twenty (120) days after this Order becomes final, publish in the *Journal of the American Medical Association* and in *American Medical News* the revised versions of such documents, statements, or guidelines.

D. Require as a condition of affiliation with respondent that any constituent or component organization agree by action taken by the constituent or component organization's governing body to adhere to the provisions of Parts, I, II, and III of this Order.

E. Terminate for a period of one year their affiliation with any constituent or component organization within one hundred and twenty (120) days after learning or having reason to believe that said constituent or component organization has engaged, after the date this Order becomes final, in any act or practice that if committed by respondent would be prohibited by Part I, II, or III of this Order.

V.

IT IS FURTHER ORDERED that respondent American Medical Association:

A. Within sixty (60) days after the Order becomes final publish a copy of this Order with such prominence as feature articles are regularly published in the *Journal* *of the American Medical Association* and in *American Medical News* or in any successor publications.

B. Within one hundred and twenty (120) days after this Order becomes final, file a written report with the Federal Trade Commission setting forth in detail the manner and form in which it has complied with this Order.

C. For a period of five (5) years after this Order becomes final, maintain and make available to the Commission staff for inspection and copying upon reasonable notice, records adequate to describe in detail any action taken in connection with the activities covered by Parts I and II of this Order, including but not limited to any advice or interpretations rendered with respect to advertising, solicitation, or contract practice involving any of its members.

D. Within one year after this Order becomes final, and annually thereafter, for a period of five (5) years, file a written report with the Federal Trade Commission setting forth in detail any action taken in connection with the activities covered by Parts I and II of this Order, including but not limited to any advice or interpretations rendered with respect to advertising, solicitation or contract practice involving any of its members.

VI.

IT IS FURTHER ORDERED that respondent American Medical Association shall notify the Commission at least thirty (30) days prior to any proposed change in the respondent, such as dissolution, assignment, or sale resulting in the emergence of a successor corporation or association, or any other change in the corporation or association which may affect compliance obligations arising out of this order.

By the Commission.

COMMENTARY

The Federal Trade Commission has issued a final order prohibiting the American Medical Association from restraining competition among its members. The order was recently upheld in the AMA's appeal to the Supreme Court.

In 1979, the Commission found the AMA and other medical associations were engaging in illegal conspiracies to restrict competition. However, the Commission's order—which binds only the AMA—did not go into effect because of court appeals by the AMA. The Commission order will not go into effect on June 28, 30 days after being issued today.

Under the order, the AMA may no longer prohibit truthful advertising by its member physicians, but may adopt and enforce guidelines to prohibit advertising that it reasonably believes to be false or deceptive. The Commission found medical associations used "ethical" restrictions to suppress doctors' truthful advertising of information that could help consumers. In one example, the Commission said a county medical society used advertising restrictions to hinder a church-sponsored program providing low-cost tests to detect and prevent heart disease. In another case cited by the Commission, advertising restrictions were used to help drive a physician house-call service out of business.

The order also forbids the AMA from interfering with either the amount or form of compensation offered in a contract for physicians' services, but does not restrict professional peer review of fee practices. The Commission found that medical societies had engaged in price-fixing, by using these "contract practice" restrictions to prevent doctors from working at hospitals and health maintenance organizations for less than "usual" fees in the community. Medical groups had also used contract practice rules to obstruct the development of health maintenance organizations and to prevent partnerships between physicians and other licensed providers such as clinical psychologists, the Commission found.

The Second Circuit Court of Appeals upheld and modified slightly the Commission's order against the AMA in 1980 and the Supreme Court also upheld it on March 23, 1982, as the result of a 4-4 vote.

Under a 1979 consent agreement settling a Commission case against the American Dental Association and several other dental associations, those portions of the AMA order dealing with advertising restrictions will automatically apply in the ADA case. The Commission will soon issue an amended order in the ADA case, prohibiting the suppression of truthful advertising by member dentists, but permitting guidelines that bar advertising that is reasonably believed to be false or deceptive.

The Commission's orders against the AMA and the ADA could become unenforceable if a bill approved by the Senate Commerce Committee on May 11 becomes law. The committee's bill would give all professionals a total exemption from antitrust and consumer protection law enforcement by the Commission.

Month in Washington

President Reagan won a stunning victory with the Congressional passage of a tax-increase, spending-cut bill in late August. The House vote was 226-207; the Senate vote, 52-47.

The bill—Tax Equity and Fiscal Responsibility Act of 1982—is projected to raise government revenues by $98.3 billion over the next three fiscal years, including $18.3 billion in fiscal year 1983. The legislation also includes spending cuts in Medicare (12.8 billion over three years) and Medicaid (1.4 billion over three years).

The support of House Democrats proved essential to the bill's passage; only 103 of the 192 House Republicans voted for the bill. The Senate vote was split largely along party lines with nine Democrats and 43 Republicans supporting the measure.

Numerous earlier provisions of the Senate and the House were not accepted by the Conference committee. One such provision that ended up on the cutting-room floor was a proposal that would have placed a limitation on the annual increase in physician fees through limits on the Economic Index.

The complex bill evolved from marathon sessions, some lasting until dawn, of a House-Senate conference committee. Few pieces of legislation have stirred more interest and controversy. The ten-day-long conference was attended day-and-night by more interested people than any "old timer" can recall.

American Medical Association lobbyists covered the marathon sessions in relays, "—there was never a minute an AMA representative was not on hand." In addition, senior AMA Chicago and Washington staff were constantly on call to determine the relative emphasis of different Association policies so that the lobbyists on the Hill at all times were clearly informed by "beepers" of AMA policy priorities.

Michael Bromberg, Executive Director of the Federation of American Hospitals, said:

"As always the AMA people were always there, were seen everywhere, did a wonderful job, and came out better than anyone."

Some of the highlights of the bill affecting physicians follow:

Inpatient Radiology and Pathology Services

Medicare reimbursement for inpatient radiology and pathology services will be put on the same basis as Medicare payment for the services of other physicians. Reimbursement will be at 80 percent of the "reasonable" charges, and radiologists and pathologists will no longer be required to accept assignment for all cases.

Prepared by the Washington, D.C.
Office of the American Medical Association

Provider-Based Physicians

This provision calls for a differentiation between professional medical services furnished in a hospital that are directly furnished to an individual patient and that contribute to the patient's diagnosis or treatment, and those services that are a benefit to the general patient population. Services to an individual patient will be reimbursed under Part B and services to the general patient population will be reimbursed under Part A. To determine the reimbursement under Part A, the Secretary will establish a "reasonable compensation equivalent" through regulations.

Duplicate Overhead Payments for Outpatient Services

In determining "reasonable" charges for outpatient services, the Secretary is required to issue regulations to limit the "reasonable charge to a percentage of the amount of the prevailing charge for similar services furnished in a physician's office, taking into account the extent to which overhead costs associated with such outpatient services have been included in the reasonable cost or charge of the facility."

Assistants at Surgery

Reimbursement for assistants at surgery in hospitals with an approved training program will be prohibited if the training program related to the medical specialty required for the surgical procedure and a qualified individual from the hospital staff is available to assist. Exceptions will be allowed pursuant to regulations to be developed by the Secretary by October 1, 1982, for the following circumstances: (1) "exceptional medical circumstances;" (2) a team of physicians is needed to perform complex medical procedures; (3) a physician of another specialty is needed for concurrent care; and (4) other circumstances deemed appropriate by the Secretary. Where an assistant at surgery is entitled to reimbursement, the Secretary is to determine the appropriate method of reimbursement.

Pensions

- **Limits on Contributions and Benefits**—Maximum contributions to a defined contribution plan would be reduced from $45,475 to $30,000. Maximum annual benefits under a defined benefit plan would be reduced from $136,425 to $90,000. The cost-of-living adjustments for these dollar limits would be suspended for two years. Beginning in 1986, the dollar limits would be adjusted for post-1984 cost-of-living increases. Maximum benefits under a defined benefit plan would be actuarially reduced if benefits commence before age 62 (present early retirement reduction occurs if distributions take place before age 55).

These provisions apply to new pension plans not in existence on July 1, 1982. For pension plans in existence on July 1, 1982, the $30,000 and $90,000 limitations will apply for plan years beginning in 1983. Certain transition rules will be provided to ensure that benefits already earned under an existing plan are not reduced on account of the reduced limits.

- **Loans from Retirement Plans**—As a general rule, loans from a tax-qualified or governmental pension plan would be treated as a plan distribution. An exception to this rule is that a loan would not be treated as a distribution to the extent that the loan does not exceed the lesser of $50,000 or 50 percent of the present value of the vested employee benefit, but not less than $10,000. In other words, loans from plans at any one time would be limited to $10,000 or half of the vested benefits up to $50,000. This exception only applies if by its terms the loan is to be repaid within five years. Loans for principal residences would not be subject to the five year rule. Effective date: Loans made after August 13, 1982 (with transition rule).

- **"Top-Heavy" Plans**—Top-heavy plans are defined as pension plans (both corporate and noncorporate) under which more than 60 percent of the accrued benefits or contributions are provided for key employees. A key employee is an officer, a 5 percent owner, a 1 percent owner paid over $150,000 per year, or any of the employees owning the 10 largest interests in the employer. Special plan requirements for top-heavy plans include:

  — a rule limiting includible compensation to $200,000 (adjusted for inflation). Only the first $200,000 of an employee's compensation may be taken into account in determining contributions or benefits under the plan.

  — minimum vesting schedules: An employee's right to the accrued benefit derived from employer contributions must become nonforfeitable under a vesting schedule which satisfies one of two alternative schedules provided in the bill. A plan satisfies the first alternative vesting schedule ("three-year full vesting") if an employee who has at least three years of service with the employer maintaining the plan has a nonforfeitable right to 100 percent of his accrued benefit derived from employer contributions. A plan satisfies the second alternative vesting schedule ("six-year graded vesting") if an employee has a nonforfeitable right to at least 20 percent of the accrued benefit at the end of two years of service, 40 percent at the end of three years of service, 60 percent at the end of four years of service, 80 percent at the end of five years of service, and 100 percent after six years of service with the employer.

  An employer could not avoid the top-heavy plan rules by establishing a plan under a one-man corporate shell or by leasing employees from another employer. Congress has modified the impact of the *Keller v. Commission of IRS* decision by restricting corporations set up solely for tax-avoidance purposes.

- **Keogh Plan Limits**—Changes made have the effect of permitting a self-employed person to contribute into a Keogh retirement plan the lesser of 20 percent of earned income or $30,000. The $30,000 figure would be adjusted, after 1986, to reflect cost-of-living increases. At present the limits are 15 percent of income or $15,000. Effective for plan years beginning in 1984.

- **Estate Tax Exclusion**—A ceiling would be placed on the present law's unlimited estate tax exclusion for annuities paid from qualified pension, stock-bonus or profit-sharing plans, tax deferred annuities, IRAs, and certain military retirement plans. The aggregate amount excludable from the gross estate would be $100,000 for any decedent dying after December 31, 1982.

- **Estimated Revenue Increase** for pension provisions: $2 billion over three years.

Medical Deductions

Medical expense deductions would be allowed for medical costs exceeding 5 percent of a taxpayer's adjusted gross income, compared with the current 3 percent. Taxpayers' ability to include prescription drug costs greater than 1 percent of adjusted gross income would be repealed after 1983. In addition, the current deduction for half of health insurance premiums up to $150 would be repealed.

****

A stalemate of sorts is holding up congressional action on legislation to exempt the professions including medicine, from the jurisdiction of the Federal Trade Commission.

The exemption was approved by the Senate Commerce Committee earlier this year as part of a reauthorization of the FTC's operations. However, Committee Chairman Robert Packwood (R-OR), a foe of exemption, has not brought it up for a vote by the full Senate.

On the House side, a flat reauthorization minus any exemption has been approved by the House Commerce Committee (H.R. 6995), with the proviso that another bill (H.R. 3722) which would place a moratorium on FTC action regarding state-regulated professions, will be offered from the floor as an amendment to H.R. 6995.

Support for the exemption, strongly backed by the AMA is growing in the House where 214 members already have endorsed the bill (H.R. 3722) providing for a moratorium on the FTC's actions against the professions.

Packwood and the House Subcommittee Chairman James Florio (D-NY), have launched a coalition drive to permit FTC jurisdiction over the professions. The FTC's authorization is due to expire Oct. 1 and there is a chance an attempt will be made to keep the agency functioning through a continuing resolution providing operating funds if the reauthorization measures stall.

Both House and Senate action is expected shortly after the Labor Day recess.

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Dropped in the hopper as an early entry in the upcoming contest next year over national health plans was an old standby—catastrophic—with a new twist.

The bill was introduced by House Budget Committee Chairman James Jones (D-OK) and Rep. James Martin (R-NC), a member of the House Ways and Means Committee.

Under the legislation, employers would be encouraged to offer catastrophic coverage plans providing that employes would not have to incur out-of-pocket expenses of more than $3,500 yearly. For people not reached by such private insurance, the government would set up a Catastrophic Automatic Protection Plan (CAPP) paying all medical expenses after a specified amount of personal spending based on family income is incurred. CAPP would be administered by the Health and Human Services (HHS) Department. Benefits below the catastrophic level would be the same as those under Medicare.

The two lawmakers said the catastrophic benefit could be financed through imposing limitations on the tax deductions for the costs of providing employes health insurance. This limit would be $100 per month per family. If it is exceeded, employes would be taxed on the surplus as if it were income. The present tax deductions for medical expenses above a certain percentage of income would be eliminated, but people could still deduct part of the cost of their premium payments.

The bill also promotes prospective payments for Medicare by allowing states and legal entities to seek a waiver from the government.

The Catastrophic Health Expense and Cost Constraint (CHECC) plan's tax features are similar to those that have been advanced in some of the procompetition plans introduced in this Congress. The Administration has said it will introduce its procompetition proposal early next year.

Jones said he hoped CHECC will be a factor in the serious debate on the national health debate next year. He estimated the plan would save the government money, perhaps as much as $1 billion a year.

At a news conference, Martin said "the large, unexpected expenses of illness can result in financial ruin" for people with inadequate coverage or none. "This legislation is long overdue in the effort to provide appropriate cost constraints and to provide financial assistance for medical bills for those now unprotected by private or public insurance," he said.

Mark Your Calendar

★★★★★

CONNECTICUT STATE MEDICAL SOCIETY
SEMI-ANNUAL MEETING
HOUSE OF DELEGATES
THURSDAY, NOVEMBER 18, 1982
YALE INN (Former Holiday Inn)
MERIDEN, CT

★★★★★

CONNECTICUT STATE MEDICAL SOCIETY
191st ANNUAL MEETING
HOUSE OF DELEGATES
WEDNESDAY, MAY 25, 1983

★★★★★

ANNUAL SCIENTIFIC ASSEMBLY
OF THE SOCIETY
THURSDAY, MAY 26, 1983

★★★★★

PLAN NOW TO SAVE THE DATE

Cost-Effectiveness of Flu Vaccine

CONGRESSIONAL OFFICE OF TECHNOLOGY ASSESSMENT

Influenza vaccination is a low-cost and effective method of preventing illness and reducing productivity losses, yet it is used at too low a level for society to reap substantially its potential benefits, says a report released recently by the Congressional Office of Technology Assessment (OTA).

The OTA report on the cost-effectiveness of influenza vaccine and immunization programs is being released in conjunction with hearings scheduled recently in New York City by the House Subcommittee on Health and the Environment, Energy and Commerce Committee.

Vaccination benefits all age groups, according to OTA, but is most cost-effective among high-risk persons, i.e., the elderly and those with certain pre-existing illnesses.

OTA's analysis shows that during 1972-78, approximately 150 million flu vaccinations resulted in about 13 million more years of healthy life at a cost of $63 per year of life gained. About $250 million in potential productivity losses were averted. Among high-risk persons, vaccination gained a year of healthy life at a cost of $10. Vaccination was actually cost saving for people 65 years and older.

During the same period, influenza caused an estimated 127,000 deaths and cost about two billion for medical treatment. Approximately 77 percent of these deaths occurred among persons aged 65 years and older. Flu also caused an average of 15 million days of work loss at an estimated productivity loss of $760 million in each of those years.

The OTA report on the cost-effectiveness of influenza vaccine and immunization programs is a follow-up to an earlier report on Federal vaccine and immunization policies.

Although vaccination is the medically preferred method of reducing the impacts of flu, OTA points out that influenza vaccine has never received widespread acceptance by either health professionals or the public. Throughout most of the 1970's only ten percent of the nation's population received influenza vaccine; and further, only about 20 percent of the population most susceptible to complications of influenza were vaccinated. These percentages doubled, however, in 1976-77 when the Federal Government launched the National Influenza Immunization Program.

Despite the incidence of the paralytic condition Guillain-Barre Syndrome (GBS) associated with the so-called "swine flu" vaccine in 1976-77, influenza vaccines have proven to be quite safe, according to OTA. Subsequent to that year, the incidence of GBS among influenza vaccinees has been virtually the same as that among nonvaccinees. OTA estimates that the clinical effectiveness of influenza vaccine was about 60 percent in 1972-78.

OTA points out that at present, the Federal Government spends little effort to promote the use of influenza vaccine. Through its Food and Drug Administration, the Government evaluates the safety and efficacy of influenza vaccine, and through the National Institutes of Health and Centers for Disease Control it finances epidemiologic and biomedical research in influenza and influenza vaccines.

The report examined possible steps that could be taken if the Government decided to promote the use of influenza vaccine. Three possible ways are:

- the Public Health Service could fund a national campaign to stimulate private sector elements, e.g., health professionals, employers, labor unions, and the public, to increase use of the vaccine;
- Congress could appropriate Federal funds for support of annual nationwide influenza immunization programs analogous to Federally supported childhood immunization efforts; or
- Congress could authorize Medicare to pay for influenza vaccinations of elderly beneficiaries.

Representative Henry A. Waxman (D-Calif.), Chairman of the House Subcommittee on Health and the Environment, said: "When the OTA announced in 1979 that the vaccine against pneumonia was cost-effective, Congress agreed to expand Medicare coverage to pay for it. With this report about the success of a flu vaccine, I hope we can ask Medicare to pay for this preventive health measure that will save lives and dollars."

Representative James H. Scheuer (D-NY), a member of the subcommittee, commented: "The importance of today's hearing cannot be understated. Public acceptance of the cost-effectiveness, safety, and preventive health care benefits of flu vaccine, particularly among the high-risk elderly, is essential. Inclusion of flu vaccinations under Medicare is clearly the most efficient way of delivering this health care."

OTA is a nonpartisan analytic support agency which serves the U.S. Congress. Its purpose is to help Congress deal with the complex and often highly technical issues that increasingly confront our society.

This case study has been prepared by the Office of Technology Assessment, established by the U.S. Congress as a resource to its members.

The OTA report, "The Cost-Effectiveness of Influenza Vaccination," is available from the U.S. Government Printing Office (GPO). The GPO stock number is 052-003-00855-6; the price is $5.50.

Current Medicolegal Issues

THE CITATION—AMA

Handicapped Physician Wrongfully Denied Admittance To University's Psychiatric Residency Program

A physician was wrongfully denied admission to a psychiatric residency program because he suffered from multiple sclerosis, a federal appellate court in Colorado ruled.

A trial court ordered the university to admit the physician to the next class of its psychiatric residency program. It also awarded him attorney's fees and costs. The court found that he was a qualified applicant even though he was confined to a wheelchair and was disabled in his abilities to walk and to write. The court found that the physician had been excluded from a program receiving federal financial assistance solely by reason of his handicap, and that the university was in violation of the Rehabilitation Act.

On appeal, the university maintained that the physician had no private cause of action under the Rehabilitation Act, that he had failed to exhaust his administrative remedies prior to filing suit, and that the trial court had erroneously decided the merits of the case. The appellate court said the physician had a cause of action under the Act on the ground that he was excluded from participation in a program receiving federal financial assistance.

The physician did not have to exhaust his administrative remedies in order to overcome the effects of unlawful discrimination, the court added. The evidence supported the finding that the physician was qualified for the program apart from his handicap. The reasons stated by the university for rejecting the physician were based on incorrect assumptions or inadequate factual grounds, the court said.

The federal appellate court affirmed the trial court's decision in favor of the physician.—*Pushkin v. Regents of the University of Colorado,* 658 F. 2d 1372 (C.A. 10, Colo., Sept. 4, 1981)

Editor's Note: A prior decision in this case was reported in THE CITATION, Vol. 43, No. 4, p. 40.

THE CITATION is a newsletter on medicolegal issues prepared by the Office of The General Counsel of the American Medical Association.

Patient Has Right To Have Life-Support Systems Terminated

An incompetent patient suffering from terminal amyotrophic lateral sclerosis had a right to have her life-support systems terminated, an Ohio trial court ruled.

The 70-year-old patient was placed on the life support system as a result of amyotrophic lateral sclerosis and cardiac arrest. Her state of being was described as semi-comatose or chronic vegetative.

After an evidentiary hearing, the court concluded that she had suffered irreversible brain damage and that, if she were competent, she would elect not to be placed on a life-support system. The constitution right of privacy guaranteed a terminally ill person the right to decide his future medical treatment, the court said. The standard of proof required to support an order for removal of a life-support system was clear and convincing evidence, the court added.

Prior to discontinuation of life-support, the court ordered that a neurologist certify that there was no reasonable medical possibility that the patient would regain any cognitive function. A 48-hour notice of the examination and of the discontinuation of the life-support must be given to the county coroner and prosecutor so that they could have witnesses present. Finally, the court said that the death certificate for the patient should list the natural causes as the cause of death.—*Leach v. Akron General Medical Center,* 426 N.E. 2d 809 (Ohio Ct. of Common Pleas, Dec. 18, 1980)

No Hospital Hearing For Radiologists Whose Hospital Contract And Staff Privileges Expired

Radiologists whose staff privileges expired pursuant to a contract with a hospital were not entitled to an order directing the hospital to grant them a hearing on the question of their right to staff privileges, a Maryland appellate court ruled.

The four radiologists, who were shareholders in a professional corporation, provided radiology services to the hospital under a contract that expired on June 30, 1980. Their staff privileges expired on the same date.

In January 1980, the hospital created an imaging department, a consolidation of the former radiology and nuclear medicine departments. After a formal selection process a new physician was appointed chief of the imaging department. He negotiated with the radiologists but never reached agreement with them. He finally contracted with other physicians.

The four radiologists filed suit against the hospital, its administrator, and the new head of the imaging department. The suit alleged breach of contract, interference with business relationship, and violation of state and federal antitrust laws. A trial court denied the radiologists' request for reinstatement, but ordered the hospital to grant them a hearing on their right to staff privileges.

On appeal, the appellate court said that they were not entitled to a hearing. The hospital had complied with due process during the administrative procedures it followed in selecting the head of the department of imaging and negotiating an exclusive contract with him. The record showed that the radiologists lost the contract as a result of the hospital's policy decisions to consolidate radiology and nuclear medicine into one department and to appoint a department head with no outside office commitments, who was agreeable to "combined billing" under Maryland Health Services Cost Review Commission rates, the court noted.—*Anne Arundel General Hospital, Inc., v. O'Brien,* 432 A. 2d 483 (Md. Ct. of Special App., July 13, 1981)

Hospital Committee Records Not Discoverable In Malpractice Suit

The proceedings of a medical review committee conducting peer review were not subject to discovery in a medical malpractice action, a federal trial court in Connecticut ruled.

A patient who had filed a malpractice action against a physician served a subpena on the administrator of a hospital where the physician had staff privileges. The subpena requested production of the proceedings of a peer review committee. The trial court ruled that Connecticut law governed the case and that a statute barred discovery of peer review proceedings unrelated to the subject matter of the suit.

The court said that the purpose of the statute was to encourage physicians to evaluate their peers without fear of disclosure and that that purpose would be hampered by public release of any proceedings, not just those involving the patient who sued. The overriding importance of the review committees to the medical profession and the public required them to be conducted in an atmosphere of complete confidentiality, the court said.—*Morse v. Gerity,* 520 F. Supp. 470 (D.C., Conn., June 4, 1981)

Louisiana Malpractice Act Constitutional

The Louisiana statute requiring review of medical malpractice claims by a review panel was not unconstitutional, a federal appellate court in Louisiana ruled.

The estate of a deceased patient claimed that her physician was negligent in diagnosing and treating the patient. He had prescribed an oral contraceptive for the patient. Shortly after she began taking the medication, she died of a pulmonary embolism. On a motion by the patient's physician the proceedings were stayed until the complaint was first submitted to a medical review panel. The panel then reviewed the complaint and rendered an opinion favorable to the physician. The opinion was admitted into evidence in the subsequent trial, and a jury returned a verdict for the physician.

On appeal, the appellate court said that the medical malpractice review panel procedure was constitutional. The panel's opinion was admissible in a subsequent trial but was not conclusive, the court noted. The procedure did not unduly impair the right to a jury trial, since a jury made the ultimate decision on liability. The statute had a rational basis and did not violate the equal protection clause, the court concluded.

The lower court's judgment was affirmed.—*Seoane v. Ortho Pharmaceuticals, Inc.,* 660 F. 2d 146 (C.A. 5, La., Nov. 2, 1981)

MD Who Fails To Produce Records Held In Contempt Of Court

A physician was in contempt of court for failure to comply with a grand jury subpena requesting production of records of his abortion clinic, an Illinois appellate court ruled. The physician appealed the contempt citation on grounds that the physician-patient privilege protected the medical records for disclosure. The trial court said that the secrecy of the grand jury would protect any disclosures made by the physician. The appellate court affirmed the trial court's decision, saying that the grand jury's power to conduct a criminal investigation was to be given broad scope. Medical records were sought for some named individuals and for some case numbers who were Public Aid recipients. The appellate court found no more disclosure from the order than the patients had already disclosed in order to receive Public Aid.—*People of the State of Illinois v. Florendo,* 420 N.E. 2d 506 (Ill. App. Ct., April 14, 1981)

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The President's Page

Sometimes, We Do It the Hard Way

"How long have you felt bad, Mrs. S.?"

"Ever since Kathy was two."

Good enough, but now we have to ask who is Kathy and when was she two. We all know that to make a workable diagnosis we must start with a good, complete medical history. Although the history is 70% of the diagnosis it is surprising how difficult it is to obtain.

The patient is frightened, distracted with worry, and often confused as to time relationships. Particularly the elderly find it difficult to tell a story in a proper time frame. In order to be sure they tell the sequence of events in order, they find they must relate developments to some happening in their lives or of those they love. To the practitioner this may give erroneous impressions and often necessitate repeated questioning in order to obtain accurate time intervals.

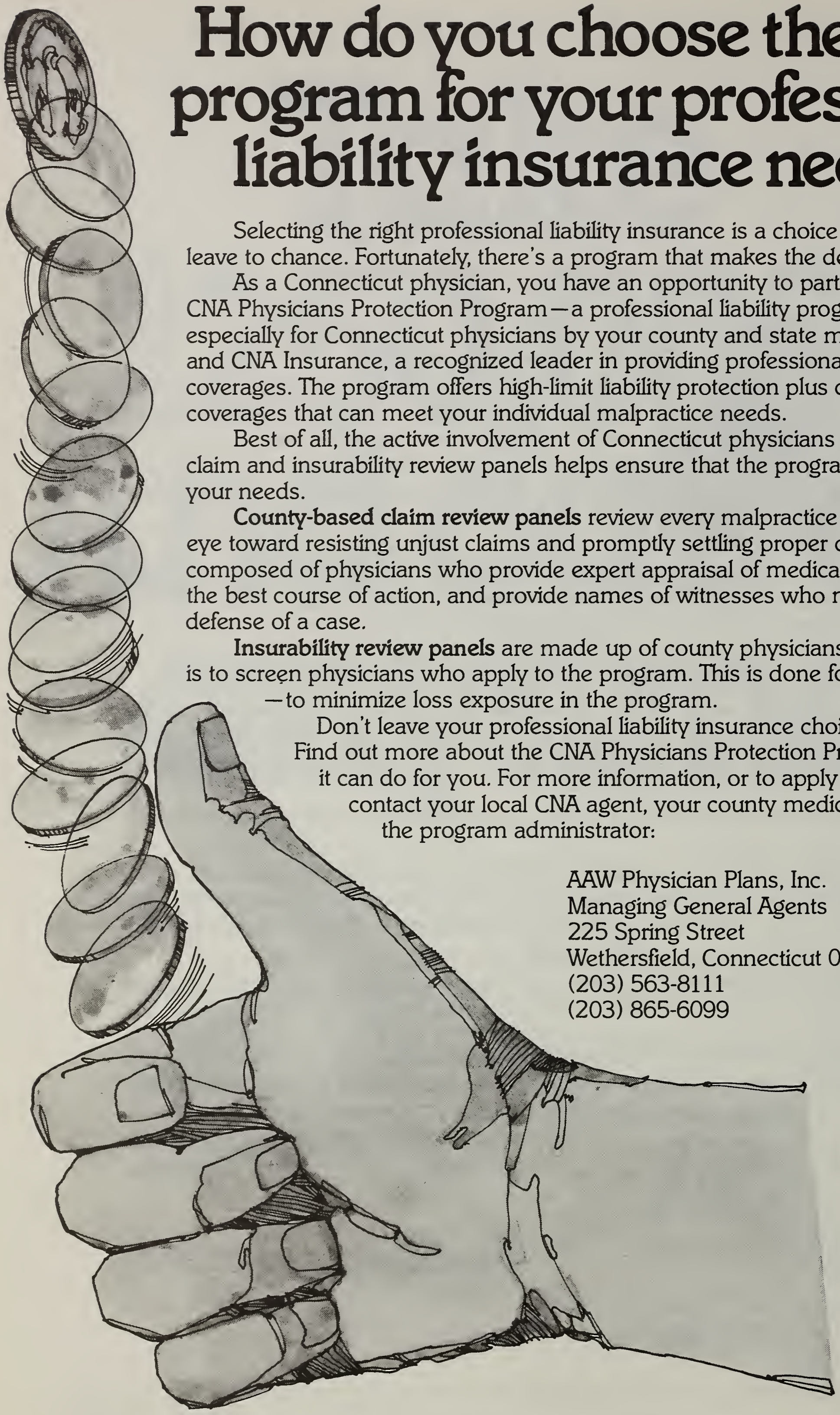
The patient is always eager to explain away his symptoms because he is afraid of their possible significance. Thus we find him saying: "Yes, my stools were black but that was only because I ate some berries," or "Yes, I get up two or three times a night, but doesn't everyone my age?"

"I have some heartburn and belching but it's only when I eat certain foods so it doesn't mean anything."

Somehow by finding a reason for a symptom in their own minds the problem will no longer exist. Unfortunately, some interpret popular journal articles wrongly and may eliminate some facets of their story as unimportant. Conversely, many clutter their story with many worthless details.

The medical history is the most important clue as to what is ailing the patient. Obtaining it may be an onerous task requiring an intuitive understanding and interpretation of what the patient is trying to tell us. Although occasionally time consuming, our efforts are well spent because, of all the tests we subject the patient to, this is the cheapest and may, in the end, be money-saving. Patience, persistence, and understanding are the key words.

Gioacchino S. Parrella, M.D.
President



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Reflections from the Dean's Office

Relativity and the Unconscious

ROBERT U. MASSEY, M.D.

It was much easier to make moral judgments and to stick with them when moral values were considered absolute. There was little room for self-doubt when self was not the point: a generation or two ago, questions of right and wrong were most often decided by reference to objective, not subjective standards.

Most of the basic rules had been clearly set forth in the Ten Commandments, but included a number of other concepts from literature, tradition, and the two Testaments. "Thou shalt not steal" was unambiguous; it had been carved in stone.

Derivative rules and moral guidelines were equally unambiguous, and their relationship to authoritative sources could be demonstrated by almost anyone. Since these rules were objective rather than matters of private opinion, everyone shared them and most felt themselves bound by them.

Of course, there were always unbelievers who denied the authority of Scripture, or skeptics who said that the ancient rules were not necessarily venerable, but they were too few to count; their notions had little effect upon parents, teachers, school principals, or government officials.

The other thing which made moral judgment easier was that, before Freud, there was no unconscious to blame for nasty, aggressive, or dishonest behavior. Of course, people believed in some unconscious mental activity: there were such words as heedless, regardless, and unaware which suggested that our higher moral faculties did sometimes slumber. But heedless cruelty was only a little less culpable than deliberate meanness.

The change from objective to subjective morality did not happen all at once. Philosophers were talking about the subjectivity of values long before I was a student, but I was not much aware of such talk, and discounted it or at least did not believe that it applied to me. If someone smoked on the high school grounds, he risked suspension. If someone became pregnant, she was expelled. In many colleges, violation of the honor code brought immediate dismissal.

Situation ethics did not count for much with the higher authorities. They did not operate as though they sensed the philosophical problems inherent in moral absolutism.

Recently a young faculty member, six years out of medical school, said that we, the medical schools of the country, should be held responsible for graduating physicians who were incompetent, grasping, dishonest, or uncaring; we should have expelled them before they could inflict themselves on the public.

His position is not entirely unreasonable, and in an earlier and simpler day, faculties could vote to expel students who failed to measure up academically, morally, or even in dress or deportment. If appeal was possible, it was rarely sought. Not accepting a legitimate judgment was in itself morally suspect, certainly unmanly.

The moral code and the public philosophy were known to be binding upon all alike; furthermore, everyone was held responsible for all his actions, even for allowing his conscience to slumber. The unconscious excused no one.

I explained to the young faculty member that the world is no longer like this, either in medical school or outside it. Ours is a litigious society obsessed with rights; morality is a private affair. We have made *rights* the objective value; duties, obligations, and commitments are whatever we want to make them.

Students admitted to medical school in 1982 have an abundance of intelligence; they have already demonstrated that. Whether they have the other qualifications of physicians, we cannot now, nor could we ever, be certain. Character, common sense, commitment, compassion—these are all qualities for which we have no multiple choice tests, and few objective markers; those which we once thought we had are out of date. As qualities, they are even more important now that values are relative.

Our grandfathers spoke of character, virtue, and honor, and were not asked to define their terms. Those words worked to guide behavior as long as they were part of common discourse; our language changes and with it our ways of thinking and doing.

The present state of moral relativism and ethical subjectivity may represent a new and higher stage of cultural evolution, or it may be a blind and dangerous alley.

One writer has said that finding out the answer to that is "the central task of moral philosophy of our age."[1] History may already have provided an answer.

ROBERT U. MASSEY, M.D., Professor and Dean, School of Medicine, University of Connecticut Health Center, Farmington.

REFERENCES

1. Adams EM, quoted in Philosophy and Public Policy, Self DJ, Editor, Teagle and Little Inc., Norfolk, Virginia, p 2, 1977.

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EDITORIAL

Responsibility of the Medical Community

Over a year has passed since the *Hartford Courant* published a series of five articles about parents and doctors deciding to let infants devastated with Down's Syndrone or Spina Bifida die in our state's newborn intensive care units. The articles provoked emotional discussion of how and when parents and doctors should decide to withdraw or withhold extraordinary care from devastated infants.

In the course of that year, the Department of Health Services conducted a comprehensive study of the issues raised and published its findings; the Public Health Committee of the General Assembly held a series of public hearings soliciting testimony from all those interested in the issues; and the legislature considered and rejected attempts to set certain specific standards for the decision making process.

In light of the controversy and the legislature's abstention from interference with medical practice decisions, the medical community, both institutional and individual, has a pressing obligation to deal with the inadequacies in the current system.

1. Each institution must establish, implement and monitor policies which govern the decision to withhold or withdraw care from a devastated infant within its control;
2. Educators of providers of health care must design and implement additions to curriculum for basic and continuing education which will adequately cover: a) preparing prospective parents for the possibility of birth of a severely handicapped infant; b) current and objective information on the nature and prognosis of certain handicapping condition; c) private, state and community resources which *are* available to assist parents in raising or otherwise coping with handicapped children; and d) existing laws which may apply to such circumstances.
3. Health care providers must take more literally their obligation to fully *inform* parents, maintaining strict neutrality with respect to the decisions themselves; and
4. Health care providers and institutions must be prepared to report parental decisions which they believe to be unwarranted to the proper authorities and, in such circumstances, to act in the best interests of the infant.

Unless the medical profession undertakes these suggested changes promptly, we can all anticipate repeated attempts to enact legislation which will interfere with the practice of medicine. The wolves have been chased from the door. Only an unusual and concerted display of professional responsibility will keep them at bay.

Thayer Baldwin, Jr.

Editorials are expressions of personal opinion and do not necessarily reflect the policies of CSMS.

Thayer Baldwin, Jr. is an attorney practicing in New Haven. Mr. Baldwin most recently served as Bureau Chief of the Bureau of Health System Regulation, Connecticut State Department of Health Services, Hartford, CT and in that capacity directed the study and wrote the report on infant death which is included elsewhere in this issue of *Connecticut Medicine.*

FROM THE EXECUTIVE DIRECTOR'S OFFICE

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CALL
SEMI-ANNUAL MEETING OF THE HOUSE OF DELEGATES

The 1982 Semi-Annual Meeting of the House of Delegates will be held at the Yale Inn, 900 East Main St., Meriden commencing at 12:30 P.M. on Thursday, November 18.

Gioacchino S. Parrella, M.D.
Joseph S. Sadowski, M.D., Speaker of the House
Norman A. Zlotsky, M.D., Secretary

INTRODUCTION OF RESOLUTIONS

Article V, Section 12, Par. 3 of the Bylaws of the Society provides:

Resolutions may be introduced by any Active or Life Member or student members or postgraduate physician members of the Society, in compliance with the following provisions:

a. All resolutions, reports and similar items of business submitted in writing and received at the office of the Executive Director not later than thirty days before the date scheduled for that meeting shall be considered as regular business of the House of Delegates.

b. Component county associations or the student members or postgraduate physician members, whose meetings are held later than thirty-five days prior to the date of the House of Delegates shall be allowed five days after the close of such meeting in which to submit resolutions, reports and similar items of business to the Executive Director's office and still have such material considered as regular business. In no event, however, may such resolutions, etc. be considered regular business if they are received later than fifteen days prior to the date of the meeting.

c. Reports, recommendations, resolutions or other new business may be presented to the House of Delegates by the Council of The Society at any time and shall be considered as regular business.

d. Any business which does not qualify as regular business in accordance with the foregoing provisions may be accepted for consideration by a majority vote of the delegates present and shall be referred at once by the Speaker to a reference committee. When business is introduced under the provision of this paragraph the vote shall be taken without debate, except that the introducer shall be allowed not more than two minutes to explain why it should be considered as regular business.

COUNCIL MEETING

Thursday, September 2, 1982

Attendance

Present were: Drs. Parrella, Doctor, Whalen, Jr., Zlotsky, Mendillo, Hecklau, Hess, Friedberg, Van Syckle, Abbot, Petrie, Orphanos, Kaess, Eslami, Barrett, Villa, Hayes, Ragusa, Sullivan, Jr., Beck, Sweet, McDonnell, Czarsty, Sharon and Fabro.

Also present: Mr. Tomat, FCMA; Mr. Norbeck; Mrs. Lindquist; Mr. Brunell; Mr. Sweeney; Mr. Fiorentino, Dr. Freedman and Mrs. Sandler.

Absent were: Drs. Sadowski, Canzonetti, Rubinow, Concannon, Ahrens, Reyelt, Jr., and Bobruff.

Report on State and Federal Agencies

Dr. Hess reviewed the "phasing-out process" underway at the Health Systems Agency of South Central Connecticut with closeout slated for March 1983.

Mr. Fiorentino drew attention to the staff report on the subject which summarized the Senate/House agreements on Medicare and Medicaid and then directed his comments to the recently enacted proposals contained in the "Tax Equity and Fiscal Responsibility Act of 1982." Locally, Mr. Fiorentino detailed the national debate which will center around the Certificate-of-Need Laws. Currently, Connecticut is not in compliance with the federal regulations and could face possible curtailment of the State Health Planning Development Agency (SHPDA), and a 25 percent reduction in federal monies for health programs.

Dr. Mendillo reported that PSRO II had been defunded by the Regional Department of Health and Human Services in Boston as of August, 1982. This action came despite the good performance rating given the PSRO II and leaves the Hartford PSRO the only active one left in the state.

Dr. Friedberg detailed the follow-up actions of the AMA and its allies involved in the FTC case. He then made a fervent appeal for communication from all quarters of the medical profession in response to the upcoming September legislative votes in the House and Senate on the proposed FTC bills. He urged physicians to contact their representatives and senators regarding their attitudes on these bills. Dr. Friedberg noted that the votes on the bills could still go either way and thus the importance of personal contact is essential at this time.

Report of the President

Gioacchino S. Parrella, M.D., reported on the following items:

a. *A meeting held with Tim Norbeck and Drs. Burns and Packer of the North Central Connecticut HMO, based in Hartford, which was recently taken over by the Kaiser-Permanente Medical Care Program of California:* Dr. Parrella said that Drs. Burns and Packer explained that Kaiser has no plans to expand any further in Connecticut.

b. *A controversy over building plans between Danbury Hospital and the Commission on Hospitals and Health Care:* President Parrella had directed a letter to Governor O'Neill on behalf of the hospital.

c. *A conference call from the AMA Washington Office and state medical society presidents and executive directors regarding legislation pertaining to the reauthorization of the Federal Trade Commission:* CSMS has cooperated with AMA legislative efforts to attempt to clarify that the professions should not be under FTC jurisdiction. Dr. Parrella will be traveling to Washington on September 13 to further discuss the issue.

d. *U.S. Department of Defense Civilian-Military Contingency Hospital System:* President Parrella and Tim Norbeck will be attending a briefing session on the system at the Ramada Inn in North Haven on September 22, 1982.

Dr. Parrella also referred to items 9, 10 and 17 on the agenda which were subsequently discussed.

Report of Delegate to Medical Society of New Jersey

It was VOTED to accept with commendation the report submitted by Sidney Cramer, M.D., on his attendance at the meeting of the Medical Society of New Jersey. It was also suggested that staff obtain, if possible, a copy of Dr. Cramer's comments which he delivered at the session.

Connecticut Medicine

On May 26, 1982, the CSMS House of Delegates voted to refer the report of the Ad Hoc Committee to Evaluate *Connecticut Medicine* to the Editorial Board of *Connecticut Medicine* and to the Executive Staff for investigation, evaluation and appropriate recommendations to the Council for its considered action. In keeping with the House action, reports were submitted by the Editorial Board and the Executive Staff. It was VOTED to approve of the executive staff report dated July 19, 1982 with the concurrence of the Editorial Board.

Reports on AMA Actions

Dr. Orvan Hess, CSMS Delegate to the AMA, submitted three reports on actions taken by the AMA at its House of Delegates meeting in June. They are as follows:

1. *National Health Policies:* The AMA House of Delegates, at the annual meeting in June, endorsed the report of the Board of Trustees which outlined the methodology that had been designed for a new AMA program "to develop a national health policy including basic principles to reflect the private sector's philosophy and the formulation of a national health plan containing the private sector's view of what should happen in the health field." A Steering Committee comprised of representatives of numerous organizations has been appointed to study this report. Following discussion, it was VOTED that the CSMS maintain liaison with the AMA, monitor closely the deliberations of the Steering and Advisory Committees and formulate, when appropriate, responses to policies which are under development.
2. *Medical Education:* This report included information as to the AMA actions being taken on the various proposals on "Future Directions for Medical Education" and the "Essentials for the Accreditation of Sponsors of Continuing Medical Education" and was accepted for information by the Council.
3. *Medical Staffs:* Following discussion, it was VOTED that the Council recommend to the CSMS House of Delegates that it support the AMA plan to develop a special section of the House of Delegates for hospital medical staffs such as exist for students, residents, and medical schools. It was further suggested that an attempt be made to have a speaker from the AMA address the CSMS House of Delegates on this subject.

Liability Insurance for CSMS

It was VOTED to have CSMS staff continue to pursue the matter of liability insurance for CSMS officers, committee members and staff and to report back to the Fiscal Subcommittee with specific details.

AMA Committee on Medicolegal Problems

It was VOTED to submit the names of Drs. J. Alfred Fabro, Philip Shelton and Gioacchino S. Parrella to the AMA for consideration for appointment to the AMA Committee on Medicolegal Problems.

Communication from Connecticut Society of Eye Physicians (CSEP)

After discussion it was VOTED to have President Gioacchino S. Parrella, M.D., appoint an ad hoc committee to examine relationships, goals and priorities with respect to incursions into medicine and that the ad hoc committee be comprised of specialty section representatives and interact with the CSMS Committee on Legislation and to report back to the Council.

Resignations and Appointments

Liaison Committee with Department of Income Maintenance: Manuel Nunes, M.D., Waterbury, resigned. It was VOTED to appoint Edward H. Scherr, M.D., New Haven, to Liaison Committee with Department of Income Maintenance.

Committee on Mental Health: Bruce Valentine, M.D., Abington (GP) resigned—Term 1982-87; Joseph J. Folk, New Britain (Psy) deceased—Term 1979-84.

It was VOTED to request nominees from the county associations to fill the unexpired terms on the Committee on Mental Health. The name of Mehadin Arafeh, M.D., Middletown (Psy.) was suggested. Following receipt of names of nominees, appointments will be made to fill the vacancies.

Editorial Committee on Connecticut Medicine: It was VOTED to appoint Robert T. Schoen, M.D., New Haven, to serve on Editorial Committee.

Committee on Program of the Scientific Assembly: Having been apprised of the death of Leo Giardi, Hartford, chairman of the subject committee, it was VOTED to request Edward Dunn, M.D., Waterbury, a member of the committee to act as chairman for the balance of Dr. Giardi's term.

National Commission on Nursing

It was VOTED to receive as information a letter pertaining to the fine work of the CSMS Ad Hoc Committee on Nursing on the subject report, and to commend Dr. Frank Abbot and his committee for their efforts.

Connecticut Academy of Physician Assistants (CONNAPA)

It was VOTED to contact CONNAPA when CSMS actually forms its Health Care Coalition.

Block Grants

Dr. Edmund Hecklau, on behalf of Fairfield County Medical Association, had requested an opportunity to discuss the Block Grant process. Following his discussion, no action was necessary, as this subject had previously been referred (Council meeting, June 30) to the CSMS Committee on Public Health for study and review with the objective of making appropriate recommendations to both the Council and the Committee on Legislation.

Professional Liability Update

A comparison of professional liability rates as prepared by Robert Brunell was distributed to the Council. It was VOTED to accept it for information and with commendation for Mr. Brunell's efforts. It was also agreed that efforts be made to secure a representative from the smaller counties to serve on the CNA Advisory Committee.

Committee on Statewide Medical Planning

Dr. Jerome Freedman, Chairman of the subject committee, joined the Council to supplement the Progress Report on Peer Review in Connecticut and on the Report of the Council on Medical Service of the AMA, Implementation of Voluntary Medical Peer Review, (Report A, A-82) which had been distributed with the Council agenda. Dr. Freedman outlined the CHA proposal for a statewide utilization review program. Following discussion, it was VOTED that the Council accept the progress report and empower the Committee on Statewide Medical Planning to continue further negotiations with the CHA leadership in order to draft a final proposal for review and approval by the Council. The vote on this motion was 19-2. It was further VOTED that the staff be instructed to submit the essentials of this discussion and report to the AMA as requested.

Invitation from Dean Massey

It was VOTED to accept Dean Massey's invitation to hold the April, 1983, meeting of the Council in Farmington, Connecticut.

Miscellaneous

Joint Commission on the Accreditation of Hospitals (JCAH): It was VOTED to approve of the following statement and to direct it to the JCAH and also that this action be reported to the CSMS HOD by the Chairman. "Many non-physician groups are eager to practice medicine without a medical degree. Psychologists, pharmacists, social workers, midwives and nurses are important and do important work. However, the primary responsibility for care for patients in hospitals is a medical responsibility that should be fulfilled only by medical doctors. Therefore only medical doctors should be members of hospital medical staffs."

N.B.: *The foregoing is a summary of the proceedings and actions of the Council on September 2, 1982. Detailed minutes of the meetings are on file at 160 St. Ronan Street, New Haven, for perusal by any interested member of the Society.*

IN MEMORIAM

FOLK, JOSEPH J., Georgetown, 1965. Dr. Folk was a psychiatrist in the Hartford area since 1971. He was Training Director at the Mental Health Clinic, and associate chief of psychiatry at New Britain General Hospital. Dr. Folk was assistant clinical professor at the University of Connecticut School of Medicine in Farmington. He was a member of the Hartford County Medical Association and the Connecticut State Medical Society. Dr. Folk died July 29, 1982 at the age of 42.

GIARDI, LEO P., Vermont, 1948. Dr. Giardi was a general practitioner in the Hartford area since 1949. He was on the staff of Hartford Hospital and St. Francis Hospital and Medical Center and served on the West Hartford Town Health Council. Dr. Giardi was a member and past president of the Connecticut Academy of Family Practice. He also was a member of the Hartford County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Giardi died July 30, 1982 at the age of 65.

GOETSCH, JOHN B., Rochester Medical School, 1938. Dr. Goetsch was a urologist in the New Haven area since 1946. He was assistant clinical professor of urology at Yale University School of Medicine. He also was a member of the New Haven County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Goetsch died August 8, 1982 at the age of 68.

GOLDENBERG, IRA S., Boston University, 1951. Dr. Goldenberg was a surgeon in the New Haven area since 1952. He was a U.S. Army veteran of World War II. An antiques collector, Dr. Goldenberg was past president of the Connecticut Antiques Dealers' Association. He was also police surgeon in Orange. Dr. Goldenberg was a founder of Connecticut Hospice, Inc. He was a member of the New Haven County Medical Association and the American Medical Association. He also was a member of the Connecticut State Medical Society where he served as a member of the Editorial Board of *Connecticut Medicine.* Dr. Goldenberg died July 31, 1982 at the age of 57.

HOULIHAN, JOHN J., New York Medical College, 1946. Dr. Houlihan was a psychiatrist in the Hartford area since 1965. He practiced internal medicine in the Hartford area from 1954 to 1965. Dr. Houlihan was on the staff at St. Francis Hospital and Medical Center. He was a member of the Hartford Psychiatric Society, the American Psychiatric Association, the Hartford County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Houlihan died July 19, 1982 at the age of 61.

KAPLAN, JOSEPH R., New York University, 1968. Dr. Kaplan was an internist in the Meriden area since 1974. He was a member of the Hartford County Medical Association and The Connecticut State Medical Society. Dr. Kaplan died in Cheshire on June 1, 1982 at the age of 39.

KNEALE, HALFORD B., Johns Hopkins, 1920. Dr. Kneale was a urologist in the Bridgeport area since 1923. He was a former chief of urology at Bridgeport Hospital. Dr. Kneale was a consultant at Fairfield Hills Hospital. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Kneale died August 2, 1982 at the age of 88.

LEVY, SAMUEL H., Tufts, 1935. Dr. Levy was a general practitioner in the Fairfield area since 1936. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Levy died July 17, 1982 at the age of 77.

LOCKWOOD, JANE E., Johns Hopkins, 1930. Dr. Lockwood was an internist in the Fairfield area since 1933. From 1950 to 1959, Dr. Lockwood was chairman of the Department of Medicine at Greenwich Hospital. She was senior attending physician there for 24 years. After her retirement, Dr. Lockwood made her home in New Preston. She was a member of Phi Beta Kappa, the New York Academy of Medicine, the Fairfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Lockwood died June 29, 1982 at the age of 77.

PATTERSON, MARJORIE B., Boston University School of Medicine, 1945. Dr. Patterson practiced rheumatology in the Fairfield area since 1953. She established the Arthritis Clinic at Greenwich Hospital where she was a member of the medical staff from 1953 to 1975. Dr. Patterson retired two years ago from the practice of medicine. She was a member of the Fairfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Patterson died July 25, 1982 at the age of 89.

VOLLERO, ANDREW, Tufts, 1930. Dr. Vollero was a general practitioner in the New Haven area since 1930. He was a member of the New Haven County Medical Association and the Connecticut State Medical Society. Dr. Vollero died June 9, 1982 at the age of 80.

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Selective Distal Splenocaval Shunt With Duplication of the Inferior Vena Cava

LUKE K. LICALZI, M.D. AND H. C. STANSEL, JR., M.D.

ABSTRACT—A preoperative diagnosis of duplication of the inferior vena cava was made in a patient scheduled to undergo a selective portosystemic shunt, allowing performance of a selective distal splenocaval shunt. The anatomy and embryology of major venous anomalies is reviewed and their significance is discussed.

Inferior Vena Caval anomalies are not unusual but if unrecognized can complicate intra-abdominal surgery. Prior reports have stressed the importance of avoiding inadvertent venous surgery during abdominal aortic and urologic surgery.[1-3] Variations in inferior vena cava (IVC) anatomy have also been described with caval ligation or placement of intracaval filters for pulmonary embolism.[4,5] Because anomalies of the infrahepatic suprarenal IVC are extremely rare without associated congenital cardiac abnormalities,[6] the presence of this subtype during standard portacaval shunt surgery has not been reported. Variation in the anatomy of the infrarenal cava is much more frequent,[7] and has been reported to interfere with the construction of a mesocaval shunt.[8] Renal vein, but not caval, anomalies have been noted at the time of establishment of a Warren selective distal splenorenal shunt.[9]

This report will describe the performance of a distal splenocaval shunt in a patient with duplication of the IVC.

Case Report

A 55-year-old male with a long history of alcohol abuse and biopsy proven alcoholic cirrhosis was admitted to the West Haven Veterans Administration Hospital in Connecticut, in April of 1979, with a massive upper gastrointestinal bleed. The liver was enlarged and the spleen was palpable but there was no jaundice or ascites. The patient's nutritional status was good and there was no history of hepatic encephalopathy. The protime was 14 sec. (12 sec. control), serum albumin was 3.7 mg/100ml., and total bilirubin was 2.4 mg/100ml. After resuscitation and administration of intravenous Pitressin, the patient underwent upper gastrointestinal pan-endoscopy which revealed esophageal varices without other gastrointestinal abnormalities. Mesenteric arteriography and venocavography were then done as a routine part of the pre-shunt anatomic and hemodynamic study. This revealed patent portal and splenic veins with significant portal hypertension (wedge hepatic vein pressure 36mm Hg., IVC pressure 12mm Hg). The cavogram, performed via the right femoral vein approach, also revealed duplication of the IVC (Figure 1). The caval anatomy was further defined by a left femoral vein injection (Figure 2).

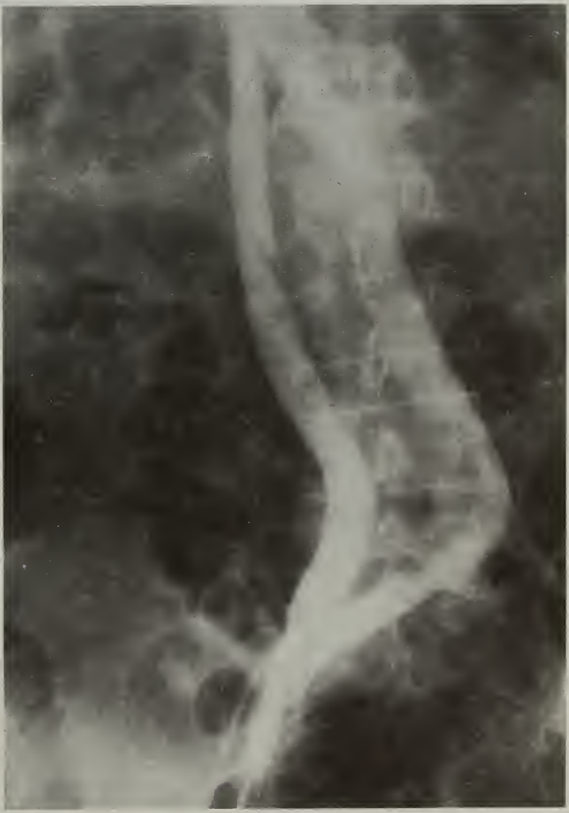

Figure 1
Inferior venacavography via right femoral vein approach.

LUKE K. LICALZI, M.D., Assistant Professor of Surgery; H.C. STANSEL, JR., M.D., Professor of Surgery; both from the Division of Vascular Surgery, Yale University School of Medicine.

Reprint requests to: Yale University School of Medicine, P.O. Box 3333, 333 Cedar St., 138 FMB, New Haven, CT 06510 (Dr. Stansel).

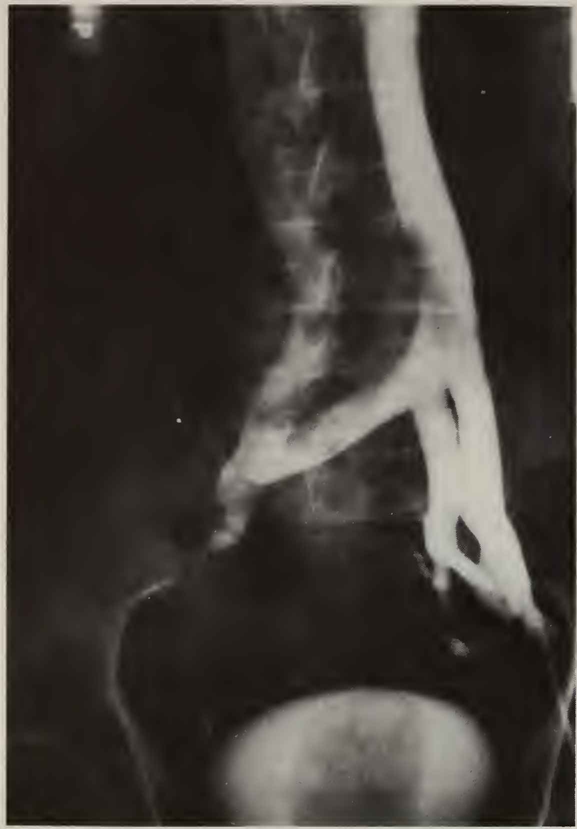

Figure 2
Inferior venacavography via left femoral vein approach.

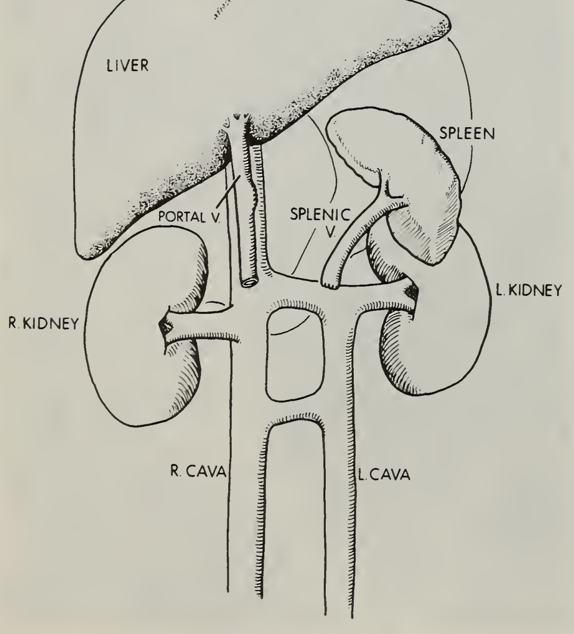

Figure 3
Diagrammatic sketch of the operation.

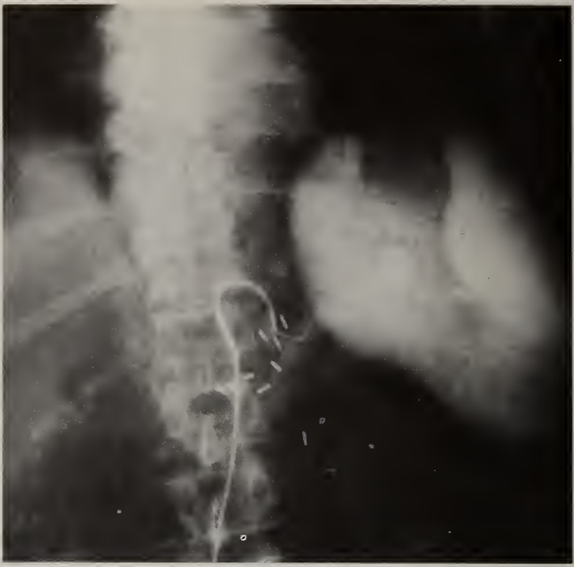

Figure 4
Postoperative splenic artery injection demonstrating patency of the shunt.

The patient then underwent a selective distal splenocaval shunt with the splenic vein being anastomosed end-to-side to the left cava of the pair of cavae (Figure 3). A retroperitoneal approach to both the left sided-cava and splenic vein beneath the transverse mesocolon was employed. The remaining details of the operation were as described by Warren.[10] The patient tolerated the procedure well and made an uneventful recovery. He remains well without signs of bleeding or encephalopathy for over two years following surgery. A post-shunt study performed by selective splenic artery injection confirms patency of the shunt (Figure 4).

Discussion

Excellent descriptions of IVC embryogenesis, anatomy, anomalies and angiographic appearances have been noted.[7, 11-15] The ICV is formed from the persisting segments of three paired longitudinal venous axes; these are successively appearing postcardinal, subcardinal and supracardinal venous systems. The pattern, whether simple or complex, is established during the 6th-8th week of embryonic life. The upper most portion of the IVC is derived from the vitelline vein, the portion above the renal veins from the subcardinal system, the areas of renal venous collar from the subcardinal-supracardinal anastomosis and the infrarenal cava develops from the supracardinal system. The iliac anastomosis is the sole remnant of the original post-cardinal veins.

In a review of the literature, including two large series of 1,500 anatomic dissections,[12] the normal right sided-cava was seen in approximately 97.6% of individuals (Table 1). A duplicated cava which represents persistence of both right and left supracardinal veins was the most frequent anomaly noted. The left cava usually crosses over to join the right, above the renal veins, but may occasionally continue cepahalad separately. The isolated left IVC, preureteric cava and absence of the hepatic segment of the IVC (azygos continuation) all occurred with less frequency.

The development of the renal vein is closely related to that of the IVC. In most individuals, only the anterior segment of the subcardinal-supracardinal anastomosis persists resulting in the preaortic left renal vein. (Table 2). Both anterior and posterior segments may persist to varying degrees (the circumaortic renal venous collar), or only the posterior segment may remain (retroaortic left renal vein).

Table 1

PREVALENCE OF INFERIOR VENA CAVAL ANOMALIES

Type	*Percent*
Normal	97.6
Left Cava	0.2-0.5
Duplicated Cava	1-3
Preureteric Cava	1
Azygos Continuation	0.6

Table 2

PREVALENCE OF RENAL VEIN ANOMALIES

Type	*Percent*
Preaortic Left Renal Vein	80-90
Retroaortic Left Renal Vein	2-3
Circumaortic Venous Ring	6-17
Double Right Renal Vein	10
Double Left Renal Vein	0.8

Major venous anomalies are not uncommon, and if unrecognized, could present serious hazards during abdominal and retroperitoneal surgery. Knowledge of the possible variations in their embryogenesis will facilitate their recognition intraoperatively. In total or selective variceal decompressive surgery, the routine performance of preoperative hemodynamic studies will fortuitously allow diagnosis of major IVC anomalies. Diagnosis may also be made by computerized tomography.[16]

Neither duplication of the IVC, isolated left vena cava or retroaortic left renal vein will interfere with reconstruction of a selective shunt if the anatomy is correctly appreciated.

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Pregnancy, Myocardial Infarction and Normal Coronary Arteries

A Case Study and Long Term Follow-up

MARTIN DUKE, M.D.

ABSTRACT—A 34-year-old woman, 4 months pregnant, sustained a transmural myocardial infarction. There were no cardiac risk factors aside from smoking. Management included therapy with lidocaine and heparin. Thereafter, pregnancy and delivery were uneventful and a coronary arteriogram was normal. The patient stopped smoking and was asymptomatic during a 6½ year followup. Smoking—induced coronary thrombosis and an awareness of possible effects of cardiac drugs on the fetus and neonate are discussed.

Introduction

Myocardial infarction during pregnancy is an unusual occurence with an estimated incidence of 1 in 10,000 deliveries,[1] and a maternal mortality rate of between 18-30 percent.[1,2] Only rarely have coronary arteriographic studies been reported in these patients.[3] Since the results of this examination may have important prognostic and therapeutic implications in a young person, it is of particular interest to describe such a patient who underwent arteriography after sustaining an acute myocardial infarction in the 4th month of pregnancy and was closely observed for 6½ years following this event. A possible relationship of the infarction to the patient's smoking habits, and the use of cardiac medications with reference to the transplacental passage of these drugs, will be briefly discussed.

Case Report

A 34-year-old woman, 4 months pregnant, experienced sudden substernal chest pain extending through to her back, associated with sweating and a faint feeling. The pain started immediately after smoking a cigarette, and was present for 15-20 minutes before her arrival at the hospital. The patient had taken birth control pills eight to ten years previously for a duration of 14 months, but had discontinued them because of a variety of side effects. She smoked one pack of cigarettes daily. Blood pressure levels in past years were in the range of 100/60-112/60 mmHg. Two-and-a-half years previously a Caesarean section had been performed at the conclusion of an otherwise normal pregnancy because of failure of induction following ruptured membranes, with delivery of a healthy 7 pound 2 ounce boy. Family history revealed that her father had taken warfarin sodium for a cerebral thrombosis, and that her two siblings were well.

On physical examination blood pressure was 78/38 to 86/52 mmHg., heart rate was 80 beats per minute, there were no abnormal heart sounds, lung fields were clear, and peripheral pulses were normal.

A chest x-ray was normal. An electrocardiogram showed evidence of an acute anterior wall infarction (Figure 1). Serum creatine phosphokinase (CPK) and lactic dehydrogenase (LDH) levels on three consecutive days were 141, 801 and 212 i.u. and 53, 224 and 196 i.u. respectively (normal CPK = 14-57 i.u., LDH = 22-60 i.u.). Cholesterol was 109 mgm.% and hematocrit varied from 31-34 percent.

Shortly after admission, occasional ventricular premature beats and short runs of ventricular tachycardia were observed. Fifty milligrams of lidocaine was administered intravenously three times, followed by a continuous intravenous lidocaine infusion at 1-3 mgm/minute for four days. The patient also received intravenous heparin 5000-7500 units every eight hours, for 5 days.

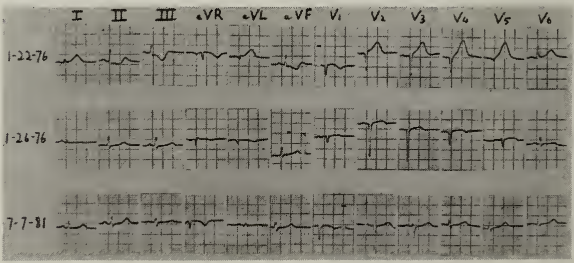

Figure 1
Electrocardiograms demonstrating the anterior wall infarction, taken within 1-2 hours after the initial symptom of chest pain, 4 days later, and 5½ years later.

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Supported by a grant from the Gertrude H. Rogers Fund.

The arrhythmias were well controlled. The patient felt movement in her abdomen, as if the baby was "kicking." Her blood pressure varied between 90/70-82/60 mmHg. during the entire hospitalization. By the 7th hospital day she was sitting in a chair, and by the 9th hospital day was ambulatory. She remained free of symptoms and was discharged on the 14th hospital day. The remainder of her pregnancy was uneventful, and five months later she delivered a healthy 8 pound 11 ounce boy by Caesarean section. At that time the triglyceride level was 136 mgm%, cholesterol was 208 mgm%, fasting blood sugar 67 mgm%, and an electrocardiogram showed evidence of the old anterior wall infarction (Figure 1).

Two months after delivery, and approximately 7 months after the myocardial infarction, a coronary arteriogram was performed. Left ventricular pressure was normal. Hypokinesis of the antero-apical wall was present. The right coronary artery was large with no evidence of disease. The left main coronary artery and circumflex artery were normal. The left anterior descending artery showed slight tapering of the vessel at the bifurcation of the diagonal branch without evidence of narrowing or obstruction (Figure 2).

During the following 6½ years, the patient continued to work as a housewife and a secretary, did not smoke, exercised regularly, took no medications, and had no cardiac symptoms. Her blood pressure remained at 90/60 mmHg. Her children were healthy. An electrocardiogram performed 5½ years after the acute infarction showed only slow R-wave progression in leads Vs and V3, without other evidence of the previous abnormal pattern (Figure 1).

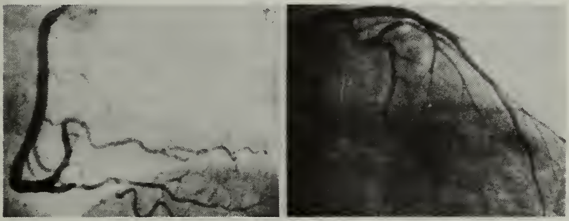

Figure 2
Demonstration of the normal right and left coronary arteriographic study.

Discussion

This case documents the presence of normal coronary arteries in a 34-year-old woman who sustained an acute myocardial infarction in the 4th month of pregnancy. The patient was followed for 6½ years with no further cardiac symptoms. A review of the literature reveals only an infrequent reference to similar cases, Sasse and associates[3] having described two such patients with normal arteriographic studies and a short followup period of 1-2 years following the myocardial infarction and pregnancy.

Normal coronary arteries have been demonstrated in as many as 17 percent of young men and women under 36 years after a transmural myocardial infarction.[4] Both coronary artery spasm and coronary artery thromboembolism with subsequent lysis or recanalization of the clot have been postulated as possible mechanisms for an infarction in the absence of observable coronary arteriosclerosis.[3,5,6] Since most of these arteriographic studies were performed weeks or months following the infarction, a more definitive diagnosis could probably only be made by performing the arteriogram at the time of the acute infarction, a situation not always feasible.

The occurence of smoking-induced coronary thrombosis followed by myocardial infarction in patients with otherwise normal coronary arteries is an unproven hypothesis.[6] Whether pregnancy is a coincidental event, or whether it plays any additional role in this process in certain individuals, is speculative. However, it is significant that the present patient was a smoker, was smoking at the time of onset of the infarction, did not smoke for the 6½ years following the infarction, and had no further symptoms during this time, an observation reported by others in patients with infarction and apparent normal coronary arteries.[6] It would appear that in the absence of coronary artery disease and other major risk factors, the immediate and long term prognosis in these patients is favorable.

In general, management of a myocardial infarction during pregnancy does not differ from management under other circumstances. Indeed, even cardiac arrest due to ventricular fibrillation has been successfully treated by electrical shock with no apparent fetal injury.[7] Appropriate drugs should be administered for management of the infarction although the transplacental passage of these medications and their possible effects on the fetus and neonate should be kept in mind.

Lidocaine and heparin were used in the present case during treatment of the acute myocardial infarction. It has been demonstrated that in women who received lidocaine at term either for lumbar epidural anesthesia or as a single intravenous dose, the mean level of lidocaine in the umbilical vein, representing fetal blood, was about 60% of that measured at the same time in the mother's arterial circulation.[8, 9] Under these circumstances, no ill effects were noted in the newborn infants. No information is available, however, on the effects of a continuous lidocaine drip administered at an earlier stage of pregnancy. No teratogenic effects of lidocaine are described. In the present case, four days of continuous lidocaine therapy during the fourth month of pregnancy produced no short or long term ill effects upon the child.

Oral anticoagulant drugs cross the placental barrier and not only may cause hemorrhage and tissue damage to the fetus, but are reported as having a teratogenic effect when administered early in pregnancy.[10, 11] However, heparin, since it is a large molecule and does not cross the placental barrier, has no such effects. Other cardiac drugs that may be used during management of an acute cardiac problem and that may also cross the placental barrier include digitalis preparations, quinidine, propranolol, procainamide and furosemide. Their possible adverse effects upon the fetus and neonate have been reviewed elsewhere.[11, 12]

ACKNOWLEDGEMENTS

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Vertebral Artery Stenosis with Brain Stem Ischemia: Anatomic and Therapeutic Implications

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ABSTRACT—A 66-year-old woman status-post brain stem stroke with mild, stable neurologic residua was found to have a 95% stenosis of a single remaining vertebral artery. A rare anatomic anomaly of the circle of Willis—absence of the posterior communicating artery bilaterally—resulted in brain stem ischemia. Successful revascularization was achieved using a vein patch at the stenotic vertebral origin. Discussion focuses on (1) vascular anomalies affecting the brain stem, and (2) the potential collateral communications between carotid and vertebral systems responsible for protecting the compromised brain stem. The evaluation and surgical treatment of vertebral-basilar insufficiency are discussed in the context of this case and these anatomic data.

While the benefit of carotid revascularization in patients with atherosclerotic carotid lesions and hemisphere ischemia is widely-recognized, the indications for surgery on the vertebral-basilar system are less well-defined. A number of recent reports have generally cited two explanations for the infrequent need for direct vertebral revascularization:[1] Hemodynamically-significant vertebral artery stenosis may not be clinically important because of an abundant potential collateral supply, particularly from the circle of Willis;[2] Carotid reconstruction is often effective in reversing symptoms of vertebral-basilar insufficiency.[6, 17]

This report describes a rare but recognized cerebrovascular anomaly and discusses its clinical signifi-

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cance. The indications for direct vertebral revascularization, the value of preoperative intracranial angiography, and the importance of collaterals outside the circle of Willis are emphasized.

Case Report

The patient was an otherwise healthy 66-year-old right-handed white female with hypertension well-controlled by diuretics. Her past medical history was negative but for thyroid surgery and a ureterolithotomy.

Four months of transient vertigo at rest, occurring several times daily, and two drop attacks culminated in admission to another hospital following the acute onset of difficulty speaking and swallowing. A brain stem infarction was diagnosed. The patient improved over a ten day period, being left with mild neurologic residua: slightly diminished pinprick sensation over the right body and left face, diminished gag reflex on the left, mild left finger-to-nose dysmetria, and gait ataxia to the left. The neurologic deficit remained stable, and the patient was able to resume a near-normal level of activity. Arteriography at another hospital revealed a 95 percent stenosis of both vertebral arteries and no significant carotid occlusive disease.

On admission to Yale-New Haven Hospital one month later her neurologic examination was unchanged from the post-stroke baseline. Repeat arteriography showed no significant carotid occlusive disease. In the interval since the previous study the left vertebral had become occluded: the right vertebral remained markedly stenotic (Figure 1). Intracranial views revealed a bilaterally absent posterior communicating artery with no connections between the anterior and posterior circulations via the circle of Willis (Figure 2).

In view of the previous brainstem stroke, the presently stable and near-normal neurologic status, and the circulatory isolation of the posterior fossa (supplied by a solitary stenotic vertebral artery), right vertebral artery reconstruction was recommended.

At operation (8 weeks following the stroke) via a supraclavicular approach the right vertebral artery was exposed and the atherosclerotic stenosis at its origin identified. With appropriate arterial control the firmly adherent, smooth, non-ulcerated proximal vertebral plaque was identified but left in place, and the vertebral origin widened using an elliptical vein patch.

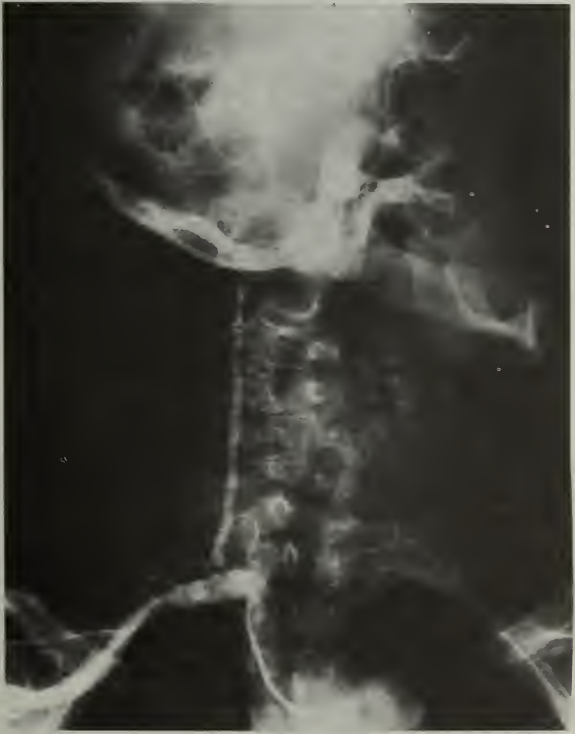

Figure 1
Hemodynamically-significant stenosis of right vertebral artery.

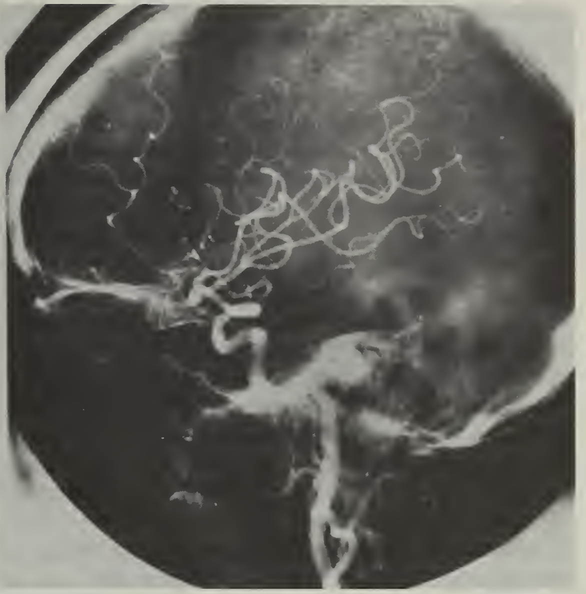

Figure 2
Lateral carotid angiogram demonstrating complete lack of flow to posterior fossa (implying functional absence of posterior communicating artery).

Following the vertebral arteriotomy, moderate retrograde bleeding was noted from the distal vertebral artery, confirming the presence of collateral flow. Following patch grafting there was excellent antegrade pulsatile flow in the vertebral artery. The arterial pressure and EEG were monitored throughout the procedure and remained essentially unchanged. There were no postoperative complications. Neurologic examinations immediately after surgery and at the time of discharge was unchanged from that on admission.

On followup evaluation one year after surgery there were no further neurologic signs or symptoms. Angiography showed good flow through a widely patent right vertebral artery.

Discussion

In 1965 Humphries defined the symptoms of vertebrobasilar insufficiency, emphasizing that the cerebellum, brainstem, posterior thalamus, and temporo-occipital cerebrum are supplied by the vertebro-basilar system.

The symptoms of vertebrobasilar-insufficiency in order of frequency are: 1) vertigo, 2) ataxia, 3) diplopia, 4) dysarthria, 5) dysphagia, 6) visual blurring, 7) sensory loss, 8) motor loss, and 9) homonymous hemianopsia.[6] The sensory loss, vertigo, dysarthria, dysphagia, and ataxia of the present case are, therefore, typical of posterior fossa hypoperfusion.

In the angiographic evaluation of patients with symptoms of brain stem ischemia one should be aware that the patterns of atherosclerosis in the vertebral-basilar system are characteristically different from those in the carotid vessels. Symptomatic carotid lesions are most often proximal, solitary, ulcerated, and extracranial, while symptomatic vertebral lesions tend to be multiple and non-ulcerated. Proximal vertebral lesions are common, but are less likely to be symptomatic.[3, 8, 10]

Crawford,[3] Loeb,[9] and Thompson[12] have emphasized that significant carotid lesions can be associated with vertebral-basilar insufficiency if there is vascular communication between the anterior and posterior cerebral circulations. This can be because of steal of blood flow from the posterior to the anterior circulation. With an intact circle of Willis and no hemodynamically-significant carotid occlusive disease, brain stem ischemia is rare even in the presence of vertebral stenosis or occlusion. In the present case, no significant carotid lesions could be demonstrated. Crawford[3] has stressed the importance of angiographic evaluation that visualizes the vertebral, carotid, and intracranial circuits; if no left vertebral artery is visualized on the subclavian injection, he recommends an arch injection to rule out direct arch origin. In this case, if the intracranial arterial circulation had not been studied angiographically, the incomplete circle of Willis and bilaterally absent posterior communicating arteries would have been undetected and the hemodymamic significance of the stenotic vertebral lesions underestimated.

The operative technique used in this case has been previously described.[3,4,8,10] Each author emphasizes the friability of the vertebral and subclavian arteries and advocates patch or bypass grafting (leaving the occlusive plaque undisturbed) rather than endarterectomy in the revascularization of these vessels.

Vascular Anatomy

To place the evaluation of vertebral-basilar symptoms in anatomical perspective, it is important to understand both the pattern of anomalies in the vertebral-basilar system and the potential for carotid-to-vertebral collaterals. Vertebral artery anomalies are common.[3,8] There may be asymmetry, with one large and one atretic vessel: the vertebrals may fail to fuse into a basilar artery; the left vertebral may take its origin from the aortic arch, necessitating arch aortography when no left vertebral is visualized on subclavian injection.

Anomalies of the circle of Willis are also quite common and have been studied extensively post mortem. Alpers[1] has defined the "normal" circle as a closed polygonal arterial circuit in which blood may circulate from any point of entrance back to that point of entrance, with no limbs less than 1 mm in outside diameter. He points out that the "normal" circle is found in no more than 50% of specimens. Alpers and Battacharji[2] agree that the most common anomaly is an atretic vessel-defined as one with external diameter less than 1 mm—most commonly, the posterior communicating artery. Alpers found a unilateral atretic posterior communicating artery in 22% of normal brains and bilateral atretic posterior communicating arteries in 6%; Battacharji reports 39% and 19% respectively. Alpers found a unilaterally absent posterior communicating artery in 0.6% of his autopsies. He had no cases of bilaterally absent posterior communicating arteries among his 350 normal brain specimens. Battacharji found a 6% incidence of unilateral absence; none of his 88 normal brain specimens showed bilateral absence. He points out that errors in dissecting technique may have artificially increased the number of unilateral absences. In a combined series of 4,497 autopsy specimens, the posterior communicating artery was absent unilaterally in 77, or 1.7%, and absent bilaterally in only 7, or 0.15%.[11] Thus, the bilateral absence of the posterior communicating artery, suggested clinically and angiographically in the present case, is a rare anomaly. Since there are no autopsy studies that have demonstrated atherosclerotic occlusive disease involving the posterior communicating arteries,[2] it is likely that the isolation of the posterior fossa in this case was congenital rather than acquired.

Alpers[1] compared the incidence of anomalies of the circle of Willis in normal brains with those with cerebral softening, finding a higher incidence of anomalies (of which unilateral atretic posterior communicating was the most common) in softened brains. He reasoned that an abnormal circle may fail to supply adequate collateral flow in cases of extracranial vascular occlusion, leading to the infarction noted by the pathologist as brain "softening". Alpers had no data on the status of the extracranial vessels in the brains studied. Battacharji,[2] by examining both the circle of Willis and all extracranial vessels, was able to obtain such information. We found that among patients with carotid or vertebral disease, those who developed infarcts had a much higher incidence of an atretic posterior communicating artery. Fields,[5] in a report of survivors of basilar artery occlusion, found that those with arteriographically-intact circles of Willis fared better clinically. These studies support the generally held view that the circle of Willis is extremely important in redistributing blood flow in the presence of extracranial arteriosclerotic occlusive disease. Collateralization derived from the carotid, channelled through the posterior communicating arteries, can sustain the metabolic requirements of the posterior fossa in the absence of vertebrobasilar flow. In the present case, the combination of a discontinuous circle of Willis and marginal vertebral artery flow left the viability of the brainstem precariously dependent on tenuous collaterals.

A number of studies have been done to clarify the potential for collateralization via carotid-to-vertebral anastomoses.[3,9,10,11,13] These collateral pathways which may develop both extracranially and intracranially are illustrated in Figure 3.

Extracranial collaterals between the carotid and certebral systems fall into three categories: (a) *thyrocervical trunk* to vertebral (via muscular branches and branches to the anterior spinal artery); (b) *common carotid* to vertebral (via muscular branches); (c) *external carotid* to vertebral (via muscular branches and the occipital artery). Categories (a) and (b) are found predominantly in the lower neck and (c) in the upper neck.

Among the intracranial communications between carotid and vertebral systems, the *circle of Willis* (d) is the best-appreciated and probably the one capable of handling the greatest flow. There exist, however, other intracranial collateral pathways. The *leptomeningeal vessels* (e) are an extensive vascular network in the pia mater, covering the entire cerebral and cerebellar surfaces, which receive supply from both the internal carotids and the vertebrals. The communications in the leptomeningeal vessels fall into three categories: (e-1) between the *anterior* and *middle* cerebral arteries; (e-2) between the *middle* and *posterior* cerebral arteries (via the angular branch of the middle cerebral and the occipital branch of the posterior cerebral); (e-3) between the *anterior* and *posterior* cerebral arteries (via the callossal and choroidal branches). The first two categories of leptomeningeal connection are thought more substantial than the third. So extensive are the anastomoses in the leptomeningeal network that it has been said that there are no end arteries on the surface of the brain (even though there exist similar anastomoses in the substance of the brain, their caliber has been found so small that they are felt not to be of significance as collaterals).[9] The *rete mirabile* (f) constitute yet another collateral avenue. These are vessels joining the external carotid, via its middle and accessory meningeal branches, with the leptomeningeal vessels. Another potential collateral route (not illustrated) are the small direct communications between the major vessels of the circle of Willis that may be found in the interpeduncular fossa.

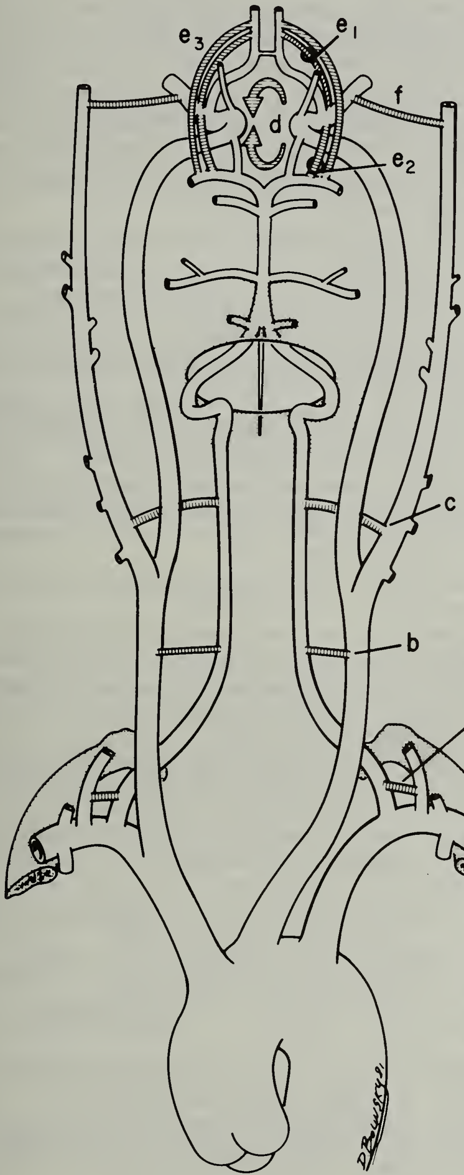

Figure 3
Schematic representation of carotid-to-vertebral collateral circulation.

Extracranial
a. *Thyrocervical trunk* to vertebral
b. *Common carotid* artery to vertebral
c. *External carotid* artery to vertebral
Intracranial
d. *Circle of Willis*
e. *Leptomeningeal vessels*
  1. Anterior to middle cerebral artery
  2. Middle to posterior cerebral artery
  3. Anterior to posterior cerebral artery
f. *Rete mirabile*

It seems, then, that the intra- and extracranial components of the circulation to the brain can be viewed as a functional unit capable of redistributing blood flow to compensate for pathological occlusion. It is the communications outside the circle of Willis described above that must have provided the circulation to maintain the viability of the posterior fossa in the present case.

Indications for Surgery

While the criteria for operability in vertebral occlusive disease have not been well-defined, a number of authors have discussed the relative indications for vertebral artery reconstruction: Eastcott[4] suggests operating "where it appears certain that a narrowed vertebral orifice is contributing to total cerebrovascular insufficiency." Crawford,[3] Thompson,[12] and Loeb[9] agree that a single patent vertebral artery can satisfactorily supply the posterior fossa and that surgery should be undertaken only for significant bilateral vertebral disease. The same authors point out that fewer vertebral reconstructions are being carried out as it becomes apparent that carotid revascularization often eliminates vertebral symptoms, presumably by increasing collateral circulation to the posterior fossa. Fields[5] has shown that survival is possible even with complete basilar artery occlusion, and Humphries[6] has reported 95 patients with either carotid, vertebral, or combined carotid and vertebral stenoses in whom vertebrobasilar symptoms were relieved by carotid endarterectomy. Rosenthal *et al.*[17] have more recently confirmed the beneficial effects of carotid endarterectomy on patients with symptomatic vertebrobasilar insufficiency; 80% of 114 patients were improved by carotid endarterectomy.

Patients with vertebral-basilar TIA's and those with carotid TIA's have a comparable and significantly increased risk of stroke.[15] Just as carotid endarterectomy is likely to eliminate the associated hemispheric TIA's and reduce the subsequent incidence of hemispheric strokes, so also might vertebral revascularization decrease the incidence of brain stem strokes in patients with vertebral artery lesions and vertebral-basilar insufficiency. To make a decision regarding operability (a) the symptoms must be precisely defined and (b) the vascular anatomy must be clarified angiographically (to determine if a correctable lesion can explain the symptoms).

First, vertebral-basilar insufficiency must be distinguished from symptomatic carotid occlusive disease or labyrinthian vestibular problems.

While transient ischemic attacks secondary to carotid insufficiency are most commonly characterized by unilateral occular, motor, speech, or sensory changes, the symptoms of vertebral-basilar insufficiency are, by contrast, less stereotyped: There may be transient hemiparesis or hemisensory deficits that affect opposite sides of face or body, or alternate sides from one attack to another. Vertigo with nausea and occasional vomiting is common (but must be distinguished by the latter's positional history or by audiometric testing). Ataxia is seen in cerebellar or vestibular ischemia; transient quadriparesis, dysarthria, dysphagia, and diplopia can all be evidence of brain stem ischemia.

If a patient has symptoms of vertebral-basilar insufficiency he should have an angiogram with specific attention to (a) the aortic arch and its branches, (b) the extracranial carotid vessels, (c) the vertebral arteries, and (d) the intracranial circulation (to search for both intracranial occlusive disease and vascular communication between the anterior and posterior circulations).

As illustrated by the present case, angiography may demonstrate that carotid revascularization is unlikely to increase posterior fossa flow. Criteria for direct attack on the vertebral may be stated as follows: If (a) there are symptoms of vertebral-basilar ischemia, (b) there is a proximal, surgically accessible occlusive or stenotic lesion of the appropriate vertebral artery without significant distal, intracerebral disease, and (c) there is no indication that flow to the brain stem can be significantly enhanced by carotid endarterectomy.

Conclusion

Since patients with transient symptoms of vertebral-basilar insufficiency are at increased risk to have a brain stem or cerebellar stroke, it is clinically important to identify those patients with surgically-correctable lesions.

1. Symptoms of vertebral-basilar insufficiency should be distinguished from those of carotid-related hemisphere ischemia. (The patient must have a careful history and thorough neurologic examination).

2. Extra- and intracranial angiography must be done to distinguish three groups of patients: (a) no revascularization is feasible, (b) reversal of posterior fossa ischemia can be expected from carotid surgery, (c) only direct vertebral artery revascularization can be expected to substantially improve vertebro-basilar flow. This angiographic assessment requires careful attention to both the patterns of atherosclerosis and the anatomy of the potential vascular collaterals.

3. If direct vertebral revascularization is indicated (and such patients are few), then it can be done relatively safely with good results in most cases.

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Left Thalamic Hemorrhage and Aphasia

THOMAS R. KOSTEN, M.D. AND ALAN M. RAPOPORT, M.D.

ABSTRACT—Three cases of aphasia caused by left thalamic hemorrhage were accurately localized by Computerized Tomographic Brain Scan. The aphasia was characterized by paucity of spontaneous speech, intact repetition, perseveration, paraphasic slips, poor reading comprehension, and anomia. Non-fatal hemorrhage into the left thalamus may now be identified clinically and by CT scan.

Introduction

For 100 years it was assumed that aphasia was associated with a lesion in the frontal, temporal or parietal cortex of the dominant hemisphere. We now know from electrical stimulation of thalamic nuclei[1] or their destruction during stereotaxic thalamotomies for Parkinson's Disease[2] that lesions of the thalamus of the dominant hemisphere can also produce aphasia and other types of language dysfunction such as: diminished voice volume, dysarthria, speech arrest, trailing off of speech to an inaudible level, anomia, perseveration and mutism.

Thalamic lesions comprise 13% of all brain hemorrhages from hypertension.[3] These lesions are often devastating with the patient progressing to coma prior to detailed evaluation.

Since the advent of the CT scan, we can now rapidly and reliably localize a small hemorrhage to the thalamus. Clinical testing of these patients has taught us about an unusual type of dysphasia combined with a hemisensory or hemimotor syndrome, and occasionally with paresis of upward gaze and small poorly reactive pupils.[4,5]

The following three cases were studied at the Greenwich Hospital within one year and illustrate the typical clinical features of this lesion and clearly depict the anatomical location by CT scan. Pictures were taken on an EMI 5005 body scanner.

Case Reports

Case #1: A 69-year-old, right-handed, white female with uncontrolled hypertension abruptly developed an acute confusional state, in which she was not able to recognize her daughter or objects in the house. She also became unable to walk and fell three times before arriving at the hospital. She complained of a vague numbness of the right arm and leg. Her blood pressure on admission was 220/130 and required control with Furosemide. On neurological examination she had normal fundi, no carotid bruits, no sign of head trauma, and no evidence of meningeal irritation. There was a mild right central facial weakness, a slight drift of her outstretched right arm and normal strength in her right leg. She had positive suck, snout and right hand grasp reflexes. Mental status testing revealed an awake, alert woman with poor recent memory, labile affect and disorientation to time and place.

Her aphasia was characterized by a decreased amount of fluent, incoherent spontaneous speech with paraphasic slips and neologisms. Repetition to dictation was normal. She could comprehend spoken language to a limited degree. She could read well out loud, but had poor comprehension. She also had marked difficulty naming objects, but could demonstrate their use appropriately. There was some evidence of perseveration.

In the hospital her right arm weakness resolved over three weeks and her aphasia slowly improved. Her anomia was almost gone within six weeks. While her orientation and recent memory improved considerably, her emotional lability persisted.

An EEG demonstrated delta and theta wave activity over the left hemisphere. A CT scan showed an area of increased density in the posterior aspect of the left thalamus consistent with hemorrhage. This area did not contrast enhance.

Case #2: A 69-year-old, right-handed, white female presented to the hospital with right-sided weakness and inability to speak of sudden onset. She had been on Hygroton for hypertension and had blood pressure of up to 200/95. On admission her blood pressure was 190/100, and her fundi showed Grade II Keith-Wagner hypertensive changes. She had bilateral carotid bruits. On neurologic examination, a dense right hemiplegia and a central facial weakness were present, and she had absent light touch, pin prick and vibratory sensation in her right arm and leg. Deep tendon reflexes were one plus and symmetrical; bilateral Babinski signs were present. Mental status testing appeared normal within the limits imposed by the patient's aphasia.

Her aphasia was characterized by a paucity of spontaneous speech with occasional phonemic paraphasic slips and mispronunciations. Repetition to dictation was perfect 85% of the time. The other 15% of the time, the patient had marked difficulty with repetition and made phonemic paraphasic errors and mispronunciations. During these periods her speech would trail off in volume to an inaudible level;

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occasionally she would also become too frustrated to attempt to repeat. Reading out loud was quite good, but comprehension was impaired. Comprehension of spoken language was fairly good. She had some difficulty naming objects and some evidence of perseveration.

She partially recovered her spontaneous speech and reading comprehension over six weeks. Her hemiparesis improved more slowly and less completely than her speech.

The EEG showed left temporo-parietal lobe delta and theta wave activity. A CT scan without contrast material showed an area of increased density in the posterior left thalamus consistent with a hemorrhagic lesion.

Case #3: A 82-year-old, right-handed, white female was found in bed in a nursing home with right face, arm and leg weakness and trouble speaking. She had a history of mild organic brain syndrome and no history of hypertension. On admission her blood pressure was 160/110 on the right and 180/110 on the left. Temperature was 100.4 and respirations were 28 and noisy. There were no bruits. On neurologic examination she had a mild, right, central facial weakness, a rapid drift of the extended right arm and a mild diffuse right leg weakness. Sensory and reflex examination was normal. Pupils and extra-ocular movements were intact. There was mild eyeball tenderness with unilateral squinting suggestive of meningeal irritation. Mental status testing revealed slight disorientation. On two occasions she was inattentive (alert, but not responding at all to commands).

Her aphasia was characterized by a paucity of spontaneous speech with paraphasic slips, neologisms, dysarthria and poor pronunciation which occasionally made her unintelligible. She understood spoken words, followed commands and had no bucco-facial apraxia. Repetition was normal for 5 word sentences. Her reading out loud and comprehension was poor and she perseverated. She attempted to write with her left hand, but could not. Naming was sometimes intact and sometimes she would add an incorrect sound such as calling a "thumb" a "thumb nang." Sometimes there were semantic paraphasias such as calling a "straw" a "lamppost." She could not rhyme and could not answer the questions, "what animal says moo?" or "what sound does a chicken make?" She could name 3 of 6 colors correctly.

She was discharged on the 26th day of hospitalization, at which time she could communicate better, but still made occasional naming errors and was perseverating. Her weakness had disappeared.

The EEG on day 5 and 24 showed theta activity with some delta activity and some sharp activity in the left temporal and parietal areas.

A CT scan on day 8 of her illness (Figures 1 and 2) showed an area of increased density in the anterior and middle left thalamus distorting the 3rd ventricle and the inferior aspect of the left lateral ventricle. There was no contrast enhancement. A CT scan on day 25 of her illness (Figure 3) showed a decreased density of the previous hemorrhage, but continued distortion of the ventricular system.

Discussion

These three cases illustrate several major features of the syndrome of aphasia caused by left thalamic hemorrhage. The aphasia may be associated with a right hemiparesis and hemisensory deficit. These may be mild and subjective as in the first case or quite severe and dense as in the second case.

In a recent review of this syndrome, Alexander and LoVerme[6] concluded that the core syndrome was similar to that of transcortical aphasia with intact repetition. This was first suggested by Cappa and Vignolo[7] in their series of cases. Alexander and LoVerme also concluded that anterolateral and posteromedial thalamic hemorrhages resulted in very similar deficits. However, a recent case report of a left anterior thalamic hemorrhage reported neither a paucity of

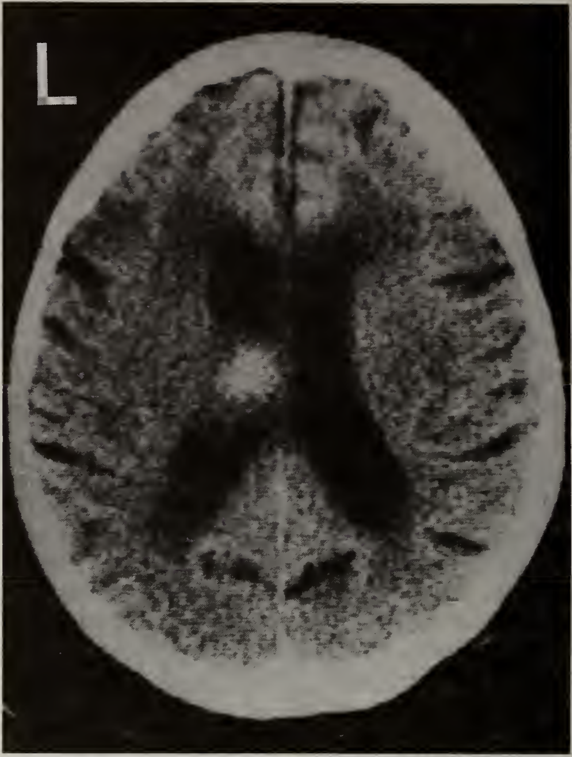

Figure 1
CT scan of case #3 on day 8 of her illness showing left middle thalamic hemorrhage projecting up into the left lateral ventricle.

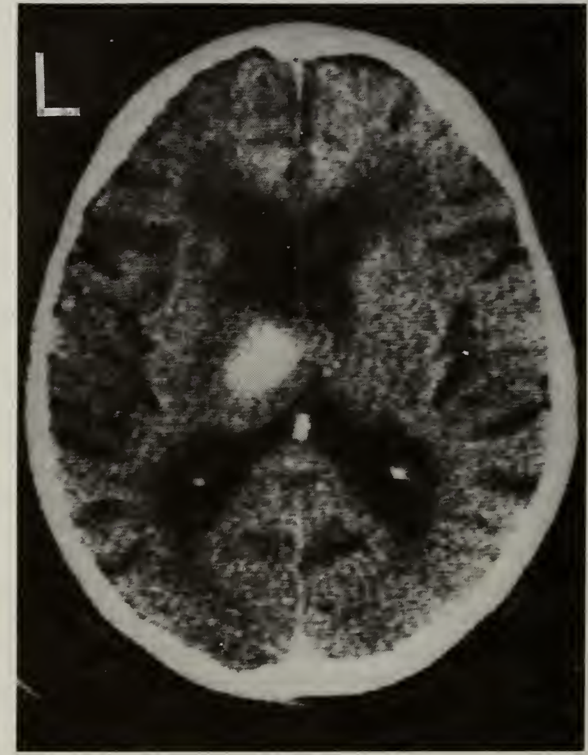

Figure 2
CT scan of case #3 on day 8 of her illness showing left thalamic hemorrhage and edema.

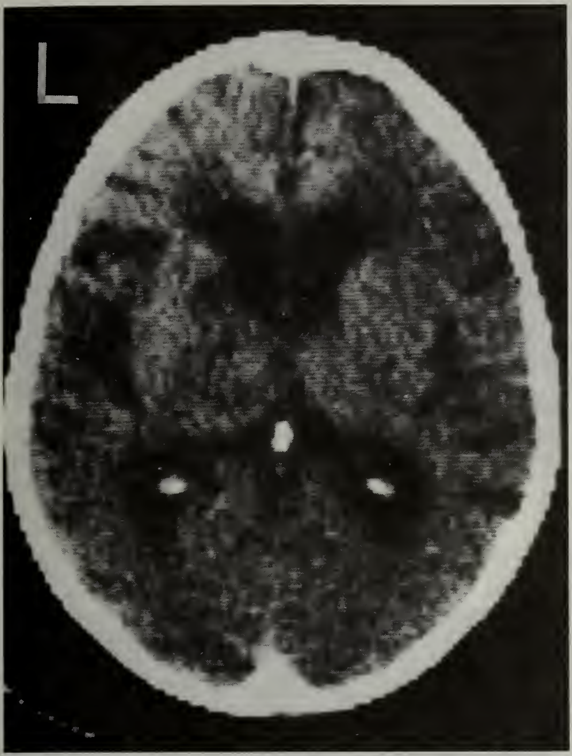

Figure 3
CT scan of case #3 on day 25 of her illness showing continued swelling of the left thalamus with distortion of the ventricular system but without much increase in density.

spontaneous speech nor frequent paraphasias and perseveration.[8] Two of our cases involved the posterior thalamus and one, the mid thalamus suggesting that spontaneous speech may be in part dependent on the dominant thalamus, although other explanations for this finding have been offered.[6]

In summary, the six features of aphasia caused by hemorrhage into the left thalamus are: paucity of spontaneous speech, intact repetition (which takes the lesion out of the Sylvian fissure region), perseveration, paraphasic slips, poor reading comprehension, and anomia. Other less consistent findings still specific to this syndrome are intact auditory comprehension, decreased voice volume and trailing off of speech. All of the first six findings except for paucity of spontaneous speech are characteristic of the posterior isolation syndrome (transcortical sensory aphasia) seen in lesions including areas of the parietal, temporal and occipital lobes. Paucity of spontaneous speech and right hemiparesis suggest anterior isolation syndrome (transcortical motor aphasia) as seen in lesions of the frontal lobe contiguous to Broca's area.

Non-fatal hemorrhage into the thalamus of the dominant hemisphere may now be identified clinically and by CT scan. By obtaining CT scans on "routine strokes," especially when hypertension and this type of aphasia are present, we may develop further insights into the linguistic role of the thalamus.

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Sonographic Demonstration of an Intraluminal Bile Duct Metastasis

A Case Report

KAREN S. BELTA, R.D.M.S., PATRICIA B. DONNELLY, R.D.M.S.
AND JESSE S. WEXLER, M.D.

Sonographic demonstration of common bile duct stones as well as abrupt cut-off or irregular tapering of the common duct from carcinoma of the head of the pancreas have been reported.[1,2] A recent case report described the sonographic diagnosis of a benign bile duct polyp.[3] To our knowledge, there has been no previous report of a malignant intraluminal mass of the bile duct depicted by sonography. We present a case of an intraluminal bile duct metastasis diagnosed by ultrasound.

Case Report

A 49-year-old white female presented with a two-week history of painless jaundice and pruritis. The total bilirubin was 14.4 mg/dl. The alkaline phosphatase was 986 i.u./ml. Sonography demonstrated a dilated, blunted common bile duct, dilated intrahepatic biliary radicals, and a rounded 3-4 cm. mass in the head of the pancreas. These findings were confirmed by transhepatic cholangiography. At surgery, a firm, stony hard, irregular mass in the pancreatic head was found. A cholecystojejunostomy and jejunojenostomy was performed. Transduodenal biopsies showed fibrosis. No malignancy was found in the biopsy specimens.

Ten months later, the patient was re-admitted with pruritis. The total bilirubin was 1.4 mg/dl., alkaline phosphatase 3003 i.u./ml. SGOT 380 i.u./ml. Sonography again demonstrated a dilated common bile duct; however, in addition, a non-shadowing solid intraluminal polypoid mass was visualized in the common duct just proximal to the site of obstruction (Figures 1A, 1B). Transhepatic cholangiography confirmed these findings, (Figure 2) and, in addition, revealed obstruction of the cystic duct. A Whipple's procedure was performed. The surgical specimen revealed two submucosal metastatic tumor nodules in the common bile duct, one of which corresponded to the intraductal polypoid mass seen sonographically. An islet cell tumor was found in the head of the pancreas. Metastases were also seen in vascular channels surrounding the common duct.

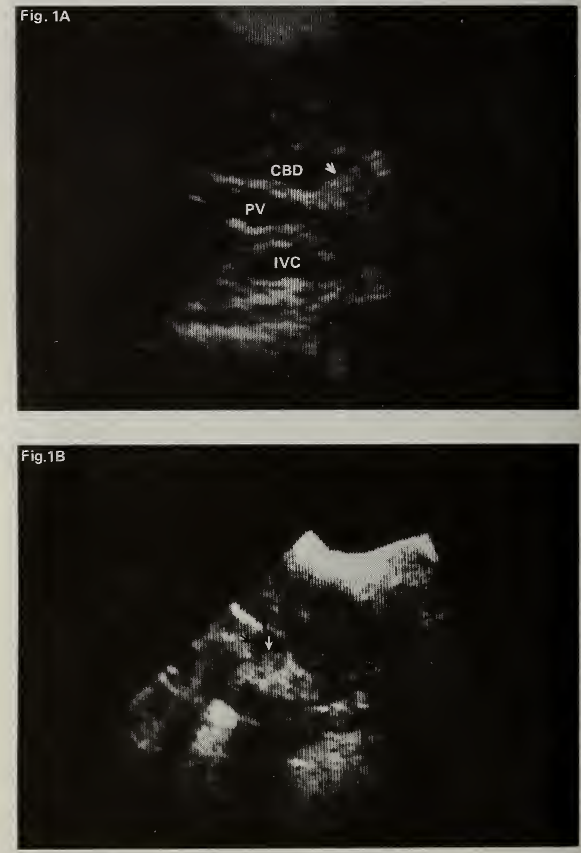

Figure 1

A. Right-anterior-oblique view of the porta hepatis.
CBD=common bile duct (dilated)
PV=portal vein
arrow=intraluminal metastatic islet cell tumor nodule

B. Cross-section through the common bile duct.
black arrows=wall of the common bile duct
white arrow=intraluminal metastatic nodule

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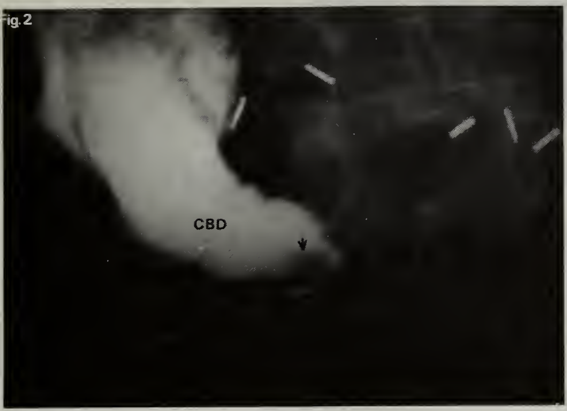

Figure 2
Transhepatic cholangiogram demonstrating the dilated common bile duct (CBD) and a polypoid filling defect (arrow) corresponding to the metastatic nodule seen with sonography.

Discussion

The common bile duct is readily visualized when the right anterior oblique position is employed.[1] Both the degree of obstruction and nature of the obstructing lesion can be described by ultrasound in cases of surgical jaundice.[2,4-6].

Sonography of the intrinsic bile duct lesion can help in the differential diagnosis by demonstrating the presence or absence of acoustical shadowing. In this case, the polypoid defect was shown not to be a calculus and thus helped the radiologist and surgeon in their interpretation of the subsequent transhepatic cholangiogram. In fact, the ultrasound study revealed all the details of the bile duct lesion, and the transhepatic cholangiogram added no additional anatomic information. This example supports the findings of Koenigsberg *et al.*,[3] who concluded that transhepatic cholangiography should be used only in cases where the biliary tract cannot be adequately visualized by sonography.

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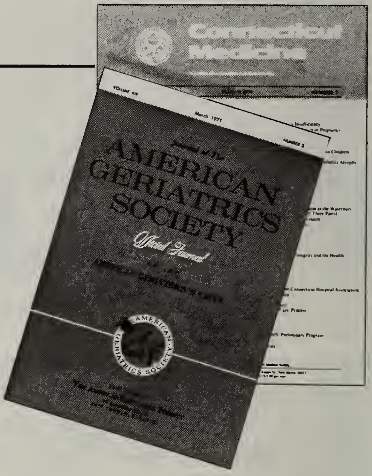

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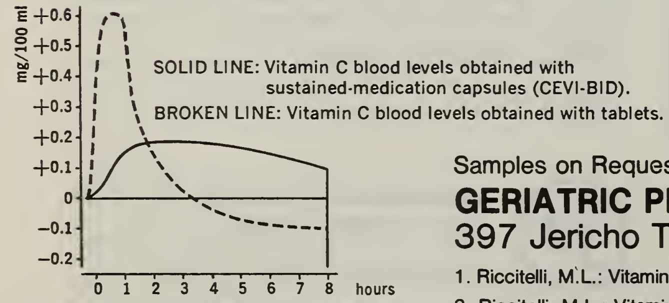

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DEVELOPERS AND SUPPLIERS OF GER-O-FOAM • GAYSAL • B-C-BID

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Epitomes of Progress—Plastic Surgery

Tangential Excision and Choice of Donor Sites

The most notable advance in burn therapy to reduce morbidity and mortality since the advent of topically administered antibiotics is the development of the technique of tangential excision and immediate grafting. Although introduced in Europe a decade ago, this concept of burn wound treatment is only now achieving wide popularity among burn surgeons in the United States. Whereas superficial second-degree burns usually heal well with topical administration of antibiotic medications, deeper second- and third-degree burns require long periods of painful dressing changes and open wounds, increasing morbidity and mortality from invasive sepsis. The previously accepted concept of burn wound treatment was to permit those areas that were capable of healing on their own to do so, allowing the deeper wounds to develop granulation tissue that could then be grated. However, granulation tissue, filled as it is with bacteria and myofibroblasts, promotes scar contraction and infection. Wound contraction leads to joint contractures and futher disability.

For adults and children with burns of up to 60 percent of total body surface, excising the wound in successive stages (15 percent to 20 percent of the burn wound at each session) is now advocated. This is done with a skin graft knife, peeling layers of burn eschar down to living dermis, or the *zone of stasis.* The exposed wound can then be covered immediately with autograft or, if donor sites are not available, they may be covered with a suitable biologic dressing (preferably homograft or fresh meshed porcine heterograft) until donor sites become available. This minimizes deformity, removes a source of infection and permits a shorter hospital stay and improved cosmetic result.

The importance of careful selection of donor sites for this technique cannot be overemphasized. The use of the scalp as donor site in these patients has made available additional, usually uninjured tissue for the grafting procedure. Thin sheets of autograft of 0.25 to 0.30 mm (0.010 to 0.012 inches) can be taken from the scalp, which has been infused with a saline solution to facilitate removal of the skin. The donor site will reepithelialize rapidly when dressed with Op-Site or other polyurethane film dressing (five to seven days) and may be reused on a weekly basis until the entire burn wound has been excised and grafted. Scalp tissue has advantages in that it is a relatively painless donor site, it is quite durable for meshing, it heals rapidly due to the large amount of hair follicles and sebaceous glands and, most important, with the regrowth of hair *it is the only truly hidden donor site.* This is an important consideration for burn victims, who often will have few parts of their body that have not been scarred either by the burn or by the surgeon's dermatome.

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Surgical Treatment of the Hand

With the establishment of the *Journal of Hand Surgery* and two national hand societies, the field of surgical treatment of the hand is now identified as a subspecialty. Training programs in surgical procedures on the hand in existing residency programs and free-standing fellowships are providing specialized training, and the programs themselves are being evaluated and standardized. There has been a tremendous expansion of surgical techniques on the hand with the evolution of microsurgical replantation and transplantation. Digital and hand replantations, a curiosity a few years ago, are now becoming routine and the results are being evaluated on the return of function to the replanted part, rather than mere survival. Reconstruction of thumbs and fingers by toe transplant is becoming more widely accepted. Multiple digits have been reconstructed by transplanting two adjacent toes or single toes from each foot. The thumb has been reconstructed with the transplantation of the large toe, the second toe, portions of the large toe, neurovascular island flaps combined with bone grafts and even thumb transplants from a functionless opposite hand.

Results after replantation of amputated digits and hands have been improved by careful attention to maintenance of bone stability with the primary use of intramedullary bone pegs, polyglycolic acid pegs, transverse intramedullary bone wires and improved instrumentation for inserting pins and small plates.

Other composite tissues have been transplanted to the hand with microneurovascular anastomosis, including metatarsal joints, osteocutaneous grafts from the hip and vascularized fibular grafts to forearm bone defects. However, these composite transplants have yet to withstand the test of time. Well-documented series of the correction of congenital defects, such as a radial clubhand, by classical techniques, remain the preferred method of treatment.

Nerve entrapment syndromes continue to be a diagnostic challenge in the field of surgery. Carpal tunnel syndrome is well recognized but ulnar compression syndromes, radial nerve compression problems and combined nerve compression problems are being recognized more and more.

Expanding interest in muscle transplantation from the lower to the upper extremities and muscle transfers within extremities have spurred interest in muscle anatomy and function. Fiber length and volume have become established as the key guidelines to consider with any transplant or transfer.

The replacement of old joints with new joints continues to be an area of special interest in surgical procedures of the hand. Though silastic implants are popular, tendon spacers and fusions must be considered.

Hand infections, once a major part of surgical treatment of the hand, are uncommon today; however, infections by normal flora and fungi are being reported, particularly in people on long-term steroid therapy. Congenital anomalies of the hand also present a challenging reconstructive problem. A better understanding of the management of these defects requires careful classification. Classic methods of treatment have always served as a standard against which new operations must be measured. Alternate flaps and alternate methods of reconstruction must always be considered.

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Current Trends in Treating Giant Pigmented Nevi

Although some controversy persists regarding frequency, there are numerous reports of high risk of malignancy in giant nevi. Reports vary from 1 percent to 15 percent in clinical series, and up to 42 percent in pathology series. Physicians at some institutions with large series of giant pigmented nevi have stated that they have never seen a case of a malignancy in one. Perhaps the best documented long-term series is from the Danish Birth Registry with a 17-year follow-up that reports a 3.3 percent incidence (4/117). However, the risk is much lower for small nevi and these statistics do not apply for nevi less than 0.1 sq cm. Criteria have been established that histologically distinguish congenital nevi from acquired nevi. One of the most important characteristics of congenital nevi is the presence of a neural cell with neural-Schwann cell appearance in the deep dermis and fat.

The anatomic distribution of malignancy is characteristically in the posterior paravertebral zone from occiput to coccyx. Of reported cases, 95 percent occur on the posterior cranium, back and buttocks.

The age at which malignant change occurs follows a bimodal pattern: a high incidence in early childhood (birth to ten years), a low incidence in adolescence and early adulthood (10 to 30 years) and increasing incidence in late adulthood (over 40 years). The bimodal age incidence correlates to some extent with pathologic features of the malignancy.

Malignant lesions occurring in early childhood are highly atypical. Pathologic diagnosis of neuroblastoma, neurofibrosarcoma, liposarcoma, rhabdomyosarcoma, myxomas and undifferentiated sarcomas are more common than classic melanoma. On the face and scalp these cell types, including fat, muscle, nerve organelles and nerve sheath and the normal melanocyte, have an embryologic derivation from neural crest. It has been suggested that these tumors are all embryonal neural crest malignancy with variable histologic patterns.

Malignant lesions can be multiple and occur in deep dermis and fat, not at an epidermal-dermal junction. Moreover, the derivation of neural crest cells from the dorsal neural tube and migration from dorsal paravertebral areas to the ventral region could explain the dermatome pattern of benign nevi and the paravertebral distribution of neural crest malignancy in nevi in children.

Malignancy in adults may occur in the paravertebral region but it is more likely to occur at other sites. Furthermore, adult malignant lesions are usually typical melanomas without embryonal neural crest features.

Treatment of large nevi is difficult because of high morbidity and the poor cosmesis from multiple surgical excisions and skin grafts. Recently, interest has been restimulated in dermabrasion as a way of managing the very large lesions that cannot be easily excised and grafted. Cosmetic results of dermabrasion are much better than with grafting. The problem of residual deep neval cells and malignant potential has not been resolved. Dermabrasion does not remove hair.

Recently a compromise approach has been described. The central paravertebral area and other atypical areas are surgically excised and directly closed (without grafts). This removes the areas of high risk. The lower risk areas laterally and anteriorly are dermabraded. Small lesions of cosmetic importance on the face can be treated with skin flaps or grafts. Radiation and lasers do not have a role in treatment.

Ernest N. Kaplan, M.D.

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Laser Technology

The argon laser has been used since 1970 in the plastic surgical and dermatological treatment of a variety of cutaneous lesions. The unique photocoagulating properties of the argon laser (model 770, Cooper Medical/Spectra Physics) make this modality invaluable for clinical treatment of a variety of cutaneous lesions. The laser produces intense, bright light that is between 480 and 520 nm, which is in the visible light spectrum. As such, it is not expected to produce iatrogenic malignant neoplasms as did x-ray or ultraviolet radiations years ago. For clinical use, a combination of blue (480 nm) and green (520 nm) is used for more complete absorption. This wave length coincides clinically with the maximum absorption curve of both hemoglobin and melanin, thus rendering laser light highly effective in the treatment of both cutaneous vascular and pigmented lesions.

The argon laser light has several unique properties that make it particularly valuable in the treatment of cutaneous lesions. Laser light has the ability to penetrate the intact epidermis until it is absorbed by a pigmented structure in the dermis. This pigment can be hemoglobin, melanin or suspended pigment of tattoo particles. The laser light is converted to heat on absorption, and this heat produces a very selective coagulation or vaporization in the upper dermal levels. Adjacent dermal appendages such as sweat glands and hair follicles are relatively impervious to laser light and aid in the rapid healing and re-epithelialization of the laser wound. The histologic changes of port-wine hemangiomas after laser treatment have been shown to be permanent and stable without ongoing changes, as shown by sequential yearly biopsies of treated lesions.

Many categories of lesions have been found amenable to argon laser treatment. These can be subdivided into five broad categories: vascular, inflammatory, nevi, tattoo and miscellaneous. Argon laser treatment has been used primarily for cutaneous vascular lesions, including port-wine hemangiomas, capillary or cavernous hemangiomas, "strawberry marks" of infancy, telangiectasia of the face and neck and other superficial vascular lesions. Inflammatory lesions such as pyogenic granuloma are easily treated with the argon laser. Nevoid-type lesions such as seborrheic keratoses, pigmented nevi, lentigo and café au lait spots have been treated successfully. Decorative and traumatic tattoos benefit by the argon laser as well. Miscellaneous lesions such as nevus of Ota, granuloma facial, acne rosacea and other lesions have also been successfully treated.

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Harvey Lash, M.D.

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Breast Reconstruction

There are 40,000 to 50,000 mastectomies done in the United States each year. An ever-increasing number of these women are asking about and undergoing breast reconstruction. Many women find that the reality of the postmastectomy situation is not so bad as they had envisioned it and therefore accept their deformity without problem. However, a large percentage of these patients seek to improve their self-image through a reconstructive procedure. Postmastectomy reconstruction is fast becoming the logical next step in the treatment of breast cancer, so much so that insurance companies pay a substantial portion of hospital and surgical costs.

Reconstruction is not done immediately. Usually three to six months after the mastectomy the reconstruction is undertaken, but of course it can be carried out at any time, depending on the physician and the specific pathology of the patient's tumor. If a patient has three to four positive axillary lymph nodes, she is not regarded as an ideal candidate, but each case must be considered individually, taking into account that the quality of life is as important to these patients as is the length of it. In general, reconstruction should be delayed until chemotherapy and radiation therapy are completed, but can be done while still undergoing chemotherapy if a patient is clinically stable.

The actual reconstructive procedure involves two considerations. The first is how to reconstruct the mastectomy side, and the second is what to do with the remaining breast. Reconstruction of the mastectomy side is carried out by creating a breast mound and a nipple-areolar complex. The breast mound is reconstructed by using an implant. In most cases this is usually a silicone-gel implant placed under the pectoralis muscle. Double lumen implants, that is, a silicone-gel center with an outer envelope filled with variable amounts of saline at the time of surgical procedure, are also popular.

If a patient has had a radical mastectomy or if the existing pectoralis is inadequate, a latissimus dorsi myocutaneous flap may be used to provide cover for the implant. Abdominal flaps based on the rectus abdominus blood supply is another way of providing adequate tissue cover for the implant. Fluorescein dye is an excellent way to determine the viability of these flaps at the time of reconstruction.

The nipple-areolar complex can be reconstructed immediately or later, when the breast mound has settled into its permanent shape and position. Tissue available for the nipple-areolar reconstruction commonly includes the remaining nipple and areola, the upper-inner thigh tissue, postauricular skin, earlobe and ear cartilage.

Saving the nipple-areola from the mastectomy breast is not recommended, not so much because of the problem of implanting cancer cells but because of the fact that they tend to lose their pigment and to become distorted when transferred from either the thigh or abdomen where they have been stored.

Mastopexy, augmentation mammoplasty and reduction mammoplasty may be needed for symmetry when trying to match the remaining breast with the reconstructed one. Depending on the pathology of the original carcinoma and a patient's family history, simple, subcutaneous or modified radical mastectomies may be necessary for the remaining breast. The mastectomy side and the remaining breast are usually treated in one surgical procedure.

Michael A. Peters, M.D.

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Chronic Skin Ulceration After Radiotherapy for Cancer

Skin ulcers following radiation therapy continue to be a considerable problem for patients and physicians. Chronic painful, nonhealing ulcerations that worsen despite local treatment can develop in patients who may have had orthovoltage treatment 10 to 20 years ago. Even the newer techniques of supervoltage, while they spare the skin, occasionally result in the production of similar ulcers in skin or mucous membranes. Radiotherapy is being used more aggressively both for cure and palliation. The skin-sparing effects of the newer radiotherapy techniques undoubtedly deliver less radiation to the skin when therapy is directed at a deep lesion. Nevertheless, this deep delivery of radiation practically assures that if skin or mucous membrane chronic ulceration occurs, it will be on top of a heavily radiation-damaged tissue that may be particularly difficult to treat.

Traditionally, radiation skin damage and ulceration have been ascribed to microvascular occlusion. However, review of pathology specimens and of the original literature shows that such microvascular occlusion is rather sporadic in radiation-damaged tissue. Furthermore, many physicians, particularly those who operate on the head and neck, have noticed that radiated tissues, even though ulcerated, may bleed profusely from multiple small vessels when cut. Recent electron-microscopic studies in animal and human radiotherapy and in solar-radiation-damaged tissues have suggested that permanent damage to fibroblasts and fibroblast stem cells may be an important part of radiation skin damage. Rather than microvascular occlusion being the only cause, it is likely that fibroblasts permanently affected by therapeutic radiation are unable to generate enough healing potential to contract open wounds and heal surgical wounds that have been made in radiated tissue.

Clinical studies recently conducted in San Diego County have indicated a change in complications of surgical intervention for radiotherapy skin ulcers. Older literature in plastic surgical procedures suggested that radiation ulcers could be excised and either skin grafted or covered with local flaps. Such procedures have been found to have an exceedingly high complication rate. Even well-vascularized myocutaneous flaps have a complication rate of 43 percent, with the major complication being the force of gravity pulling intact flaps off heavily radiated beds. In contrast, myocutaneous flaps used for reconstruction of nonulcerated skin, such as in breast reconstruction, and omental flaps to cover full-thickness excision of chest wall have minimal complications.

In summary, recent studies of chronic radiation skin damage suggest that chronic fibroblast and fibroblast stem cell damage may be at least as important as microvascular occlusion. The changing techniques of radiotherapy are producing a different pattern of skin injury that will require more myocutaneous and omental flaps,and fewer skin grafts and local flaps, for reconstruction of these very challenging chronic wound problems.

Ross Rudolph, M.D.

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Orthognathic Surgical Treatment

Orthognathic surgical treatment pertains to the surgical rearrangement of the dental arches and their supporting structures. The goal of these procedures is to correct the dental arch relationship and to put into normal alignment the position of the maxilla and the mandible to other structures. The techniques now available are no longer limited to correction of the mandibular lantern-jaw deformity but are used on both jaws and can also be used for detailed bony adjustments and corrections for optimal aesthetic results.

Asymmetries and overdevelopment and underdevelopment in any part of the lower facial skeleton are approached primarily by the intraoral route. Dissection, retraction and osteotomy instruments have been developed that markedly facilitate these surgical procedures.

As the conditions that require orthognathic surgical intervention are sometimes associated with other malformations and functional problems, it may be necessary to have the patient examined and treated by a team of specialists. Both preoperative and postoperative orthodontic treatment is often necessary and preoperative evaluation and treatment plans should be developed in cooperation with an orthodontist.

It is technically possible to move the lower facial bony structures into any desired position. The important question is, in which position will the structures be stable and supported by the neuromuscular system and the various functions? In people who require both maxillary and mandibular surgical procedures, some surgeons prefer simultaneous operations. We have seen a number of problems following simultaneous repositioning of both jaws, that is, instability of corrected positions, relapse and malrotation (sagittal, frontal and horizontal). In patients where repositioning of both jaws is required, we have consistently corrected one jaw at a time and have not noted significant instability, relapse or malrotation. Each surgical procedure is first followed by a period of fixation and then by a period of bone induction treatment, which may last for several months. Despite the prolonged treatment time, our consistent long-term results justify the double procedures. At a recent national meeting, a panel of experts denied that problems exist with the simultaneous procedures, but regardless of the technique used by such experts, we have seen substantial deformities develop in a number of patients after simultaneous surgical procedures.

Anterior advancement of the mandible requiring interpositional bone grafts, as in hemifacial microsomia, has been successfully handled using bone induction treatments to establish the new bony structures, otherwise a major problem. Unfortunately, in those cases requiring bilaterial expansion and bone grafting, for example, micrognathia, two operations are necessary as each side is best handled individually. Older techniques are prone to failure.

Chin modification through various osteotomies is often a part of orthognathic surgical treatment and can improve facial aesthetics considerably. Augmentation with onlay bone grafts has been a major problem because of bone resorption. Denatured bone, which will soon be available, shows great promise as a new material for augmentation.

Douglas K. Ousterhout, M.D., D.D.S.

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Body Contouring Operations

As the media have made American men and women more aware of their bodies, there has been an increased demand for body contour surgical procedures. The major body contouring procedure is the abdominal lipectomy or the abdominoplasty. The term "tummy tuck" is unfortunate because it denotes a very minor procedure, whereas almost all of the body contouring operations are major operative procedures.

The abdominoplasty operation, when successfully done, can easily conceal all of the resulting scars within a bathing suit line.

Some of the major contouring procedures on the thighs and hips are more difficult, and because of a patient's motion and sitting the scars have a tendency to widen and to be uncomfortable for a patient undergoing this type of surgical procedure. However, with modern anesthesia and concepts in reduction, operations have been devised that allow a patient to wear a modest type of bathing suit with little of the scar showing.

With the thigh contouring operations, it is difficult for patients to move after surgical procedure, and they are required to either lie or stand for at least ten days before they are able to sit. This makes it difficult with respect to all of the natural processes of elimination.

Another area of interest is the contouring of arms.

All of these procedures lend themselves better to those patients who have been obese and have lost weight and have hanging segments of soft tissue fat and skin. The problem in this case is that the incision is always made down the medial aspect of the arm and is difficult to conceal on a patient who wears short sleeves.

Generally, if a defect is great enough, patients do not mind the tradeoff for the major defect with a scar. In addition, large-busted patients who undergo breast reduction are greatly improved by a reduction of the tissue in the midaxillary line, which is done at the same time as in the arm. This is called a thoracobrachioplasty.

Recently, there has been interest in the technique of *suction curettage* for patients with fatty deformities around the hips, thighs and knees. This method was first described in Europe approximately ten years ago and then was discarded because of some unfavorable results. It recently has been revived and, under certain limited circumstances, it may be an acceptable procedure. The advantage is that reduction of the deformity can be done through a small incision. The disadvantages of the procedure are that it is difficult to control blood loss and to control the accumulation of seroma in the defatted area. Limited improvement may be obtained by using this technique in and around the knees. It has also been described for areas around the ankle, but this procedure is fraught with danger.

It is suggested that patients seek consultation with several physicians qualified to do this. On the larger contour procedures, patients should be made aware that donating their own blood before surgical procedure is of great benefit. It should also be noted that all the large body contour surgical operations should be done in hospital.

Frederick Grazer, M.D.

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Musculocutaneous Flaps and Free Flaps

The availability of muscle in all body regions and its reliability as a transposition flap have resulted in its increasing use in reconstructive surgical procedures. Initially, muscle and musculocutaneous flaps were used for coverage of difficult wounds in which vital structures were exposed (that is, bone devoid of periosteum or infected mediastinal wounds) when traditional methods (that is, skin grafts or random local or distant flaps) were unsuccessful. The precise definition of the vascular anatomy of muscle and its overlying skin, the resistance of muscle to infection, the refinements in flap design and the ability to transplant muscle or musculocutaneous flaps to distant regions have expanded the use of these flaps for restoration of coverage, contour and function in all body regions.

Head and Neck

The microvascular transplantation of the latissimus dorsi muscle allows coverage of massive scalp defects in one operation when reconstruction by local or distant flaps is either impossible or unreliable due to prior trauma, infection or radiation injury. The pectoralis major and posterior trapezius musculocutaneous flaps are now the standard flaps for coverage of major oral, facies and neck defects associated with surgical extirpation of tumor.

Trunk

The latissimus dorsi, pectoralis major and rectus abdominis musculocutaneous flaps were initially used for immediate coverage of major, often life-threatening, truncal defects. The ability of the latissimus dorsi musculocutaneous flap to fulfill the requirements for the contour defect associated with radical mastectomy has resulted in its common use in breast reconstruction. The recent use of the rectus abdominis musculocutaneous flap allows use of the lower abdominal skin for breast reconstruction.

Pressure Sores

The lack of sensation in the skin overlying bony prominences (that is, sacrum, ischium and greater trochanter) in a patient with spinal cord injuries allows development of substantial pressure wounds. The gluteus maximus, gluteal thigh and tensor fascia lata musculocutaneous flaps are safely transferred for coverage of such defects. In selected patients with cord transection below the third lumbar level, sensation to the skin of the tensor fascia lata musculocutaneous flap is preserved by the lateral femoral cutaneous nerve. In these patients, a sensory tensor fascia lata musculocutaneous flap when transferred over these regions will provide both defect coverage and restoration of protective sensation.

Lower Extremity

The gastrocnemius and soleus muscle flaps are used for coverage of major defects in the upper and middle thirds of the leg respectively. The impact of microsurgical techniques in reconstructive surgical procedures is shown in lower third or massive leg and foot defects where local or distant flaps have often been ineffective. Both the latissimus dorsi and gracilis muscle flaps are now transplanted for defects from trauma or chronic osteomyelitis in this area, with restoration of free flap circulation by microvascular techniques. Such flaps provide vascular coverage in a single operation, avoiding delay in healing and the need for prolonged immobility and subsequent rehabilitation.

Specific modifications of many muscle and musculocutaneous flaps are now established to allow partial muscle transposition to maintain the particular function of the muscle while still providing defect coverage. Skin-fascial flaps (that is, gluteal thigh and gastrocnemius) are based on musculocutaneous perforating vessels so that underlying muscle continuity with its origin and insertion is not disturbed. Such modifications are now standard techniques in the use of muscle and musculocutaneous flaps in all regions to provide coverage with optimal recipient-site contour and minimal donor-site deformity.

Stephen J. Mathes, M.D.

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Defined Diets and Childhood Hyperactivity

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The National Institutes of Health consensus development program brings together biomedical research scientists, practicing physicians, consumers, and others as appropriate, in an effort to reach general agreement on the safety and efficacy of a medical technology. That technology may be a drug, device, or medical or surgical procedure.

Following consensus meetings, summaries of conclusions and recommendations issued by consensus panels are widely distributed to the research, practicing, and lay communities. All shades of opinion are reflected in those summaries.

At NIH, the Office for Medical Applications of Research (OMAR) is responsible for coordination of the consensus development program. OMAR assists the individual NIH institutes, which sponsor the conferences, in this effort.

A Consensus Development Conference was held at the National Institutes of Health on January 13, 14, and 15, 1982, to seek positions on issues involving defined diets and childhood hyperactivity.

On the first two days of the meeting, experts presented evidence to a Consensus Development Panel and members of the audience on the following key questions:

1. What constitutes the hyperactivity syndrome in children? Is it a single disease or a cluster of diseases? Can it be graded or scaled in quantifiable variables such as attention span, learning ability, and social adjustment and by whom (teachers, parents, medical personnel)?
2. What are the defined diets?
3. Is there empirical evidence for an effect of these diets on hyperactivity?
4. Is there any biological explanation to support an effect of defined diets on hyperactivity?
5. If defined diets are effective, how and under what circumstances should they be employed?
6. What are the directions for research?

Panel members were drawn from the lay public, biomedical research, pediatrics, nutrition, immunology and allergy, clinical pharmacy, psychiatry and behavioral sciences, genetics, education, epidemiology, biostatistics, environmental health, and law, all relevant to a discussion of diets and childhood hyperactivity.

Introduction

Childhood hyperactivity, officially termed the "attention deficit disorder with hyperactivity," but variously referred to as "hyperkinetic reaction of childhood," "hyperkinetic syndrome," "hyperactive child syndrome," "minimal brain damage," "minimal brain dysfunction," "minimal cerebral dysfunction," "and minor cerebral dysfunction," is an important health concern affecting afflicted children, their families, and those around them. Traditional therapy for this condition has included behavior modification, educational techniques, psychotherapy, and pharmacotherapy—most prominently amphetamine-like medications.

The 1973 report by Feingold of clinical observations on the benefit of a diet free of salicylates and food additives on hyperactivity focused attention on this new treatment approach. The publication of the Feingold diet in book form came at a time of increasing public concern about environmental pollution and a desire for full knowledge of all additives found in prepared food and the presence of such substances in the diet. These trends, along with a heightened aversion to habitual use of medication, an increase in awareness of the possible causative role of nutritional factors in diseases of many types, a desire for self-involvement in health care, and

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EDITOR'S NOTE: For further information about the "NIH Consensus Development Conference Summaries," contact the Office for Medical Applications of Research, Building 1, Room 216, National Institutes of Health, Bethesda, Maryland 20205.

NIH Consensus Development Conference Summary Vol.4, No. 1

the frustration encountered in managing childhood hyperactivity, led to the widespread experimentation with the Feingold regimen and other defined diets.

Some controlled, double-blind studies indicate that these diets are only occasionally efficacious. Apparent discrepancies between some clinical impressions of efficacy and much of the available scientific evidence prompted the scheduling of this Consensus Development Conference.

1. **What constitutes the hyperactivity syndrome in children? Is it a single disease or a cluster of diseases? Can it be graded or scaled in quantifiable variables such as attention span, learning ability, and social adjustment and by whom (teachers, parents, medical personnel)?**

Innumerable definitions have been offered for the hyperactivity syndrome in children. The latest of these, in *Diagnostic and Statistical Manual III (DSM III)* (the American Psychiatric Association), delineates the varied symptomatology in this behavioral syndrome. According to *DSM III,* "the essential features are signs of developmentally inappropriate inattention, impulsivity, and hyperactivity." Other diagnostic qualifiers include onset prior to the age of 7, a duration of no less than 6 months, and a proven absence of mental illness or mental retardation.

The cluster of symptoms does not represent a single disease, nor is it likely that the etiology is singular; rather, the syndrome may be secondary to (1) organic factors such as trauma, infection, lead intoxication, and significant perinatal hypoxia; (2) predisposing genetic (familial) factors; or (3) psychosocial factors such as anxiety, inadequate parenting, and environmental stresses. In most cases the etiology is unknown and may be the result of synergism of several of the predisposing factors listed above.

The diagnostic process optimally includes the participation of parents, medical personnel, teachers, psychologists, and social workers. Several useful tests and rating scales for quantification of important variables such as attention span, learning ability, and social adjustment are available to those involved in the process; however, a need for more concise assessment tools is apparent. The recent development of electronic devices for measuring motor activity may prove helpful in providing a more refined quantitation of attention span and hyperactivity.

If progress is to continue in treatment of hyperactivity, it will be necessary to improve accuracy in diagnosis and to develop objective methods to monitor the effect of each approach to treatment and the course of the patient.

2. **What are the defined diets?**

The term "defined diets" includes several dietary modifications. The basic diet described by Feingold eliminated two groups of foods: Group 1 consists of almonds, cucumbers, tomatoes, berries, apples, oranges, and several other fruits. These were excluded because of high levels of naturally occurring salicylates. Group II includes foods known or thought to contain artificial colors and flavors (most of these latter foods were perceived by the public as "processed"). This category was largely selected on the basis of ingredient (including additive) labeling and standards of food identity. With the exception of BHT (butylated hydroxytoluene), foods containing preservatives were not excluded from the original Feingold diet. No restrictions were placed on homemade sweets, but commercially prepared desserts and other foods to which relatively high amounts of sucrose had been added were usually disallowed on the basis of their content of artificial color and/or flavors.

Defined diets came to include certain modifications of the Feingold diet. Excluded from experimental diets were foods containing BHA (butylated hydroxyanisole) and sodium benzoate; certain Group I foods containing artificial preservatives were not excluded. Another modification appears to have occurred in some home settings. Parents of children whose behavior improved on dietary modification explained that the Feingold diet was, at times, further restricted by excluding milk, normally a permitted food, or on the basis of adverse personal experiences with individual dietary items.

Other types of studies and therapeutic trials used defined diets in which nonnutritive additives were excluded, as well as foods such as corn, wheat, and milk regardless of additive content. After a preliminary trial, this type of defined diet was then modified by reintroducing individual food items one at a time and evaluating the effects of such additions upon the subject's behavior.

3. **Is there empirical evidence for an effect of these diets on hyperactivity?**

Parents and other observers have frequently reported dramatic improvements in many hyperactive children during uncontrolled trials of various defined diets. However, such dramatic improvements were not observed in a number of controlled trials reported at the conference.

While differences and inadequacies in the design of the controlled trials make analysis difficult, these studies did indicate a limited positive association between "the defined diets" and a decrease in hyperactivity. Some hyperactive children demonstrated less evidence of hyperactivity on defined diets, or modifications thereof, than on an appropriate control diet. Such decreases involved only a small proportion of patients; furthermore, the decreases in hyperactivity were not observed consistently. Studies also indicated that some hyperactive children on a defined diet experienced an increase in hyperactivity when given moderate doses of artificial food dyes, and did not experience similar increases after receiving a placebo. This increase in hyperactivity was also experienced by only a small group of patients, and the increase was not consistently reported by teachers, parents, and other observers.

Clinical observations also indicated that children who were successfully managed on a defined diet experienced hyperactivity after dietary noncompliance. Controlled challenge studies have primarily involved the administration of food dyes to children, but have not included other food flavors or preservatives that are allegedly implicated in the causation of hyperactivity. Therefore, these controlled challenge studies do not appear to have addressed adequately the role of diet in hyperactivity.

4. Is there any biological explanation to support an effect of defined diets on hyperactivity?

Only one specific biological explanation has been proposed—that the food dye erythrosine (FDC Red No. 3) inhibits neurotransmitter uptake. Experimental studies first suggested that Red No. 3 could inhibit the uptake of dopamine and other neurotransmitters *in vitro*. If true, this observation presented a mechanism by which this food additive could affect behavior. However, more recent studies suggested that this effect of Red No. 3 was the result of nonspecific interactions, and these studies raised doubts about whether Red No. 3 would affect the behavior of the intact organism. In support of this latter idea, data from three groups using the laboratory rat found that Red No. 3 caused no increase in activity or had effects only at near lethal doses. Additionally, one study in children found that the minor behavioral changes apparently caused by challenge with a mixture of food colors were a result of food colors other than Red No. 3.

Despite these negative preliminary data, it was recognized that further research, especially pharmacokinetic studies, were needed before these questions could be answered conclusively about Red No. 3 or other dietary agents. Moreover, other explanations of why a defined diet lacking food dyes, flavorings, preservatives, salicylates, and major food antigens may be beneficial can only be suggested. Direct toxic effects, idiosyncratic reactions to such agents, and hypersensitivity (allergic) responses (both lgE-mediated and non-lgE-mediated) to food antigens also could cause the observed findings. This might be by direct effects on the central nervous system or by indirect effects on other systems. However, no direct evidence for the operation of these mechanisms in treated patients is available at this time.

Placebo effects and observer bias inherrent to any major therapeutic intervention (when not controlled by appropriate blinded procedures), may also account for some of the reported benefits.

5. If defined diets are effective, how and under what circumstances should they be employed?

Case reports of a subset of responding patients presented to this panel by parents and physicians documented improvement in the hyperactive child's condition with the use of defined diet. Because insufficient evidence is available to permit identification beforehand of this small group of individuals who may respond and to determine under what circumstances they may derive benefits, the Panel cannot answer this question unequivocally.

The Panel believes the defined diets should not be universally used in the treatment of childhood hyperactivity at this time. However, the Panel recognizes that initiation of a trial of dietary treatment or continuation of a diet in patients whose families and physicians perceive benefits, may be warranted. A defined diet should not be initiated until thorough and appropriate evaluation of the children and their families and full consideration of all traditional therapeutic options (described in the Introduction) have taken place.

The ability to describe "defined diets" precisely and to ensure proper and effective clinical use, to measure compliance, and to design studies and compare the findings from one study to another depends upon making available to consumers and investigators food and food products that are completely labeled. The Panel understands that existing law does not require identifying on the label, completely and accurately, all ingredients in food. The Panel, therefore, recommends changes in the law to require the listing on labels of all ingredients of food and food products, and that this label include substances that may migrate from wrappers and containers that come in contact with foods.

The Panel also believes that special attention must be given to individual cultural, ethnic, and socioeconomic factors to ensure the proper implementation of the diet. Since the defined diets differ from traditional dietary patterns, it is the physician's responsibility to be specific and impart the knowledge and support that individual families need in implementing these diets.

6. What are the directions for research?

The Panel identified a number of critical gaps in knowledge which affect interpretation of the results of dietary intervention in the management of the hyperactivity syndrome. These deficiencies include nonuniform diagnostic standards and inadequate information regarding the natural history of this syndrome, lack of availability of optimal measurement instruments (behavioral, cognitive, and other), and other significant limitations in the research study designs employed to date. In addition, the full potential of animal and in vitro studies for generating relevant biologic information has not been realized. Therefore, further research in each of these areas is needed to be able to conduct meaningful investigations of the potential benefits of dietary management of hyperactivity.

The following directions for further research are recommended:

- *Epidemiologic studies*—Including: the development of standardized working diagnostic criteria (essential for all research in this disorder), and possible neurophysiologic, biochemical, or other diagnostic "markers." Studies of the etiology and risk factors for the condition and delineation of its natural history are needed. Such studies should address possible genetic, developmental, and environmental factors which could both be causal and also serve as predictors of prognosis and should better define those afflicted children who may be likely to respond to a given therapy. Several of these goals require longitudinal prospective studies. For this purpose, it is recommended that existing defined populations and data sources be identified and employed whenever possible.
- *Psychosocial/behavioral*—The development and utilization of standardized instruments for the assessment of cognitive, attentional, and behavioral changes in patients receiving different modalities of therapy is essential. This may involve the adaptation of existing instruments or the development of new ones for these purposes. Investigations of family dynamics are essential for understanding the impact of both the disorder and the different modalities of therapy.
- *Diet*—Further dietary research is needed with improved study design, including particular attention to certain features such as adequate sample size, explicit criteria for selection of subjects, ensuring and monitoring compliance, precise definition of the diet or dietary agent being tested, and consideration of synergistic effects of simultaneous exposure to additional dietary and/or other agents. Randomized, double-blind trials with checks on the adequacy of the blinding and repetitive evaluations are needed. Moreover, studies are also needed of the possible adverse effects of dietary intervention, on both the patient and the family, and of both a biologic and a psychosocial nature. These types of studies are essential for risk-benefit assessments that should also be carried out for other nondietary options of therapy.
- *Animal studies*—These studies offer an obvious opportunity for obtaining relevant biologic information. However, such studies should be conducted with particular attention to dosages of specific test substances, standardization of rigorously defined synthetic diets, routes of administration, and genetic factors. These studies should provide important information regarding the absorption, distribution, metabolism, and mechanism of action of the agents being tested and may be particularly relevant for human populations if appropriate behavioral endpoints in the animal model can be developed.

This conference was sponsored by the National Institute of Allergy and Infectious Diseases; the National Institute of Child Health and Human Development was the co-sponsor. The Office for Medical Applications of Research, NIH, provided assistance in planning and conducting the meeting.

Members of the Consensus Development Panel were:

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A bibliography on defined diets and childhood hyperactivity is available from the Office for Medical Applications of Research, Building 1, Room 216, National Institutes of Health, Bethesda, Maryland 20205. This bibliography was prepared by the National Institute of Allergy and Infectious Diseases.

Peer Review: A Legal Update

With a Summary of State Laws on Immunity

DANIEL G. SUBER, J.D.

INTRODUCTION: Medical peer review is an indispensable part of modern medical practice. No hospital or medical staff can long afford to operate without the benefits of peer review. Peer review may be mandated or it may be voluntarily undertaken. It may be required by state licensure laws, by federal laws, by requirements for accreditation under guidelines established by the Joint Commission on Accreditation of Hospitals or simply by interested individuals seeking to improve the quality of medical care in an institution. It is not an overstatement to say that every practicing physician will become involved at some point with peer review.

For the physician involved or thinking about becoming involved in peer review, many questions come to mind: will I be exposed to legal liability? Will the committee proceedings and records be accessible to parties in malpractice actions, and will I be called upon to testify and submit such records in court? Will I incur liability for breach of a patient's confidential communication if records are reviewed without the patient's authorization? In fact, physicians whose hospital privileges were affected by actions taken by medical review committees have occasionally sued committee members for defamation, interference with the practice of their profession, or antitrust.

The purpose of the following monograph is not to describe the various peer review mechanisms but rather to provide an overview of the protections afforded to physicians and other health care professionals through state laws passed so that physicians might be more encouraged to become active in medical peer review.

Peer review is an all encompassing term for medical review efforts. Usually peer review is conducted by a committee of health care professionals. Such a committee may be required by state or federal government, or initiated by a local professional society, a hospital medical staff, a nursing home, a medical foundation, or even an independent peer review organization. A peer review committee is not a court. Its purpose is not to determine guilt or to impose punishment. Rather, its purpose is to evaluate and to improve the quality of medical care in a given area.

Peer review may have several goals. Peer review activities may focus on appropriate utilization of services and facilities, analyze medical practices, or have a role in the credentialling of physicians or other aspects of the evaluation of patient care and medical services.

Peer review is not a new concept in medicine. Its beginnings can be traced to the Renaissance (circa 1530) when doctors first began to pool their knowledge and hold "Concilia." Over the last hundred years, peer review has become increasingly recognized and accepted as an integral part of medical practice. Today, the Judicial Council of the American Medical Association, in its *Current Opinions,* recognizes the importance of peer review.

> 9.07 Peer Review. Medical society ethics committees, hospital credentials and utilization committees, and other forms of peer review have long been established by organized medicine to scrutinize physicians' professional conduct. At least to some extent, each of these types of peer review can be said to impinge upon the absolute professional freedom of physicians. They are, nonetheless, recognized and accepted. They are necessary. They balance the physician's right to exercise his medical judgment freely with his obligations to do so wisely and temperately [see *Current Opinions of the Judicial Council,* American Medical Association, at page 31 (1982)].

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A party may seek the proceedings of a peer review committee either in connection with an unrelated suit for malpractice against a physician or as part of a suit against the committee itself. In either case, members of the review committee may incur legal exposure. Gaining access to peer review proceedings in connection with a malpractice suit may provide evidence that bolsters a case against peer review physicians at a later time.

Somewhat lessening the potential success of suit is the fact that all states have enacted statutes that protect a physician from liability when sitting as a member of a medical review committee and that limit the extent to which parties may discover committee proceedings for purposes of litigation. Such statutes, in effect, codify a common law privilege for peer review participants based on the public policy of encouraging constructive professional criticism within the medical profession.

As a general rule, state statutes protect physicians who serve on medical review committees and those who furnish information to such committees. To receive this statutory protection, communications must be made in good faith and without malice, and a reasonable effort must be made to ascertain the correctness of the statement on which action is based. Beyond this, statutes vary in terms of who will be protected on which committees. Some statutes apply only to utilization review committees. Some apply only to members of specific committees or only to specified members of committees while others apply to members of any duly appointed committee of a hospital or professional society, including the hospital's governing board. Differences in protection among the states has caused understandable confusion for physicians on medical review committees. The American Medical Association has offered model state legislation in this area. (See "Summary of State Laws on Immunity")

Although state statutes may impede the success of a suit against a peer review physician, they may not prevent the physician from being sued. Physicians whose hospital privileges have been affected by actions taken by medical review committees have occasionally sued committee members for defamation, interference with the practice of their profession, or antitrust.

Breach of a Confidential Communication

The relationship between physician and patient is a confidential one. In order for a physician to provide care effectively, patients must feel free to make full disclosure of facts with the knowledge that the physician will respect the confidential nature of their communications. A physician who reveals the confidential communications of a patient violates the ethical principles of the medical profession unless he does so with the express authorization of the patient or in conformity with legal requirements.

A number of factors have tended to erode the inviolability of the confidential communications made by patients to physicians and incorporated in medical records. The increasing incidence of personal injury litigation and the growing use of life, accident, and health insurance make medical records important evidentiary material. Insurance carriers and other third-party payers require patients to authorize disclosure of as much of the confidential information contained in their medical records as is necessary to process claims. Further, by entering a hospital as a patient, the individual gives an implied authorization for numerous people other than the attending physician to have access to the information contained in the medical record.

A number of other factors have influenced the expanding accessibility to confidential medical records. The Medicare law and regulations, the standards of the Joint Commission on Accreditation of Hospitals, and the regulations promulgated by state hospital licensing agencies require a variety of medical staff review committee functions. Proper performance of the required review activities necessitates that members of the hospital medical staff and other hospital personnel have access to the medical records of all patients.

In 1965, a New York court determined that the director of a hospital was entitled to inspect patients' records in order to investigate allegedly improper treatment. The court recognized the importance of maintaining the confidentiality of the names of particular patients, although it was moved to remark:

> Actually, the supposed strict secrecy does not really exist as to qualified personnel since these records have been seen, read, and copied by numerous staff members and employees of the hospital . . . [see *Hyman v. Jewish Chronic Disease Hospital,* 206 N.E.2d 338 at 339 (New York, 1965)].

The issue of whether an internal hospital committee may examine patient records was raised in a Missouri case [see *Klinge v. Lutheran Medical Center of St. Louis,* 518 S.W.2d 157 (Missouri, 1974)]. A physician whose surgical performance was being reviewed sought to prevent a hospital committee from examining records of his patients. The statutory physician-patient testimonial privilege was inappropriately raised by the physician to block the review. In disposing of this argument, the court recognized the right of the committee to review patient records and asserted:

> In the event that subsequent administrative or judicial proceedings are held, the confidentiality of the patient's name can be adequately assured [518 S.W.2d at 166].

Finally, a series of California decisions illustrates the principle that disclosure of a patient's ailments without disclosure of a patient's name does not violate the physician-patient privilege. In *Rudnick v. Superior Court of Kern County,* 523 P.2d 643 (California, 1974), a lower court denied plaintiff's request for disclosure of a physician's records. In remanding the case for further proceedings, the California Supreme Court issued the following guidelines:

> The whole purpose of the privilege is to preclude the humiliation of the patient that might follow disclosure of his ailments [citation omitted] . . . if the disclosure of the patient's name reveals nothing of any communication concerning the patient's ailments, disclosure of the patient's name does not violate the privilege [citation omitted]. If, however, disclosure of the patient's name inevitably in the context of such disclosure reveals the confidential information, namely the ailments, then such disclosure violates the privilege [citation omitted]. Conversely, if the disclosure reveals the ailments but not the patient's identity, then such disclosure would appear not to violate the privilege [523 P.2d at 645].

See also, *Community Hospital Association v. District Court,* 570 P.2d 243 (Col., 1977) (Trial court order requiring hospital to produce copies of medical records concerning 140 patients upon whom surgeon had performed surgery at hospital and which stated that all references to names, addresses, marital status, and occupation or employment was to be removed did not violate physician-patient relationship.)

The possibility that legal liability might be incurred by physician members of professional review committees, hospitals, or professional associations because confidential information in the medical records of patients is reviewed appears remote. This is because (1) the review can be made by using a coding system rather than patients' or physicians' names; (2) the review is conducted by physicians who are aware of the confidential nature of the information, thus lessening the possibility that indiscriminate use might be made of it; (3) the physicians serving on such committees have the protection of a qualified privilege to use the confidential information for legitimate purposes provided they act in good faith without malice; and (4) the purpose of the review is to improve general standards of patient care in the public interest. Since the records of the review committees are not created primarily for the benefit of individual patients, however, the same principles do not apply of necessity to the committee records.

Statutory Immunity

Currently, all 51 states and the District of Columbia have enacted legislation protecting to some degree the civil liability of persons involved in medical peer review or the discoverability of peer review records.[1] Of these, 33 states provide both immunity and discovery protection,[2] and 17 provide immunity and limited or no discovery protection.[3] Essentially, these statutes codify the "qualified privilege" that protects physicians from defamatory remarks that may be made about colleagues in connection with review committee proceedings.

All 51 statutes differ markedly in their scope and content. Statutes offering immunity for the physician range from qualified immunity from defamation suits to absolute immunity from all civil actions, although statutes conferring absolute immunity are generally qualified by the requirement of "good faith," [4] "lack of malice," [5] or "reasonableness" [6] on the part of the committee members. As a general rule, such statutes require physicians to act within the scope of their reviewing duties in order to qualify for immunity.[7]

Immunity statutes also vary in terms of which persons will receive immunity. Some statutes extend immunity only to physician members or other health care provider members of the committee; [8] others include any member of the review committee.[9] Still others go further to include agents and employees of committee consultants and advisers.[10] A few use language broad enough to cover nonphysician professional evaluation committees.[11]

The utilization review requirements of the Medicare law appear to have been the motivation for this type of legislative activity. Several of these statutes extend immunity only to utilization review committees. The present trend is to seek legislative extension of immunity provisions for all medical staff or medical society review committee members when the committee is authorized to review professional standards and to improve the quality of care.

As a general rule, the statutes provide protection from liability for physician members of the review committees and for individuals who furnish information to such committees for communications made in good faith without malice, when the communications are published between the parties who have a common interest in the subject matter and a reasonable effort has been made to ascertain the truth of the facts upon which action is based.

Defamation—Qualified Privilege

Of concern to members of a peer review committee is the possibility that statements presented to or proceeding from the committee, or minutes of its proceedings, might be considered defamatory. Defamation is the injury to a person's reputation in the popular sense; that is, to diminish the esteem, respect, goodwill, or confidence in which a person is held or to excite unpleasant feelings or opinions against him. In the law of defamation generally, the plaintiff must establish that a statement or communication of defamatory character was published to a third person by the defendant and that the third person became aware of its defamatory meaning. The defendant may then raise various defenses. Two of these—privilege and truth—are complete defenses and avoid all liability when they are established. A conditional or qualified privilege exists with regard to statements or communications made under the following circumstances:

1. The communications are made in good faith without actual malice;
2. There are reasonable or probable grounds for believing the communications to be true;
3. The subject matter is one in which the author of the communication has an interest, or in respect to which he has a personal or public duty of a legal, judicial, political, moral, or social nature, and the communication is made to a person having a corresponding interest or duty.

The limitations of the privilege as applied to peer review activities are evident. Any communications must be made in good faith; reasonable care must be exercised as to the truth of such communications; the information must be reported fairly; only fairly reported information should be conveyed; and it should be conveyed only to persons who have a legitimate interest in the information.

Reported decisions involving medical staff appointments and revocations illustrate that there is judicial recognition of the applicability of the qualified privilege doctrine to members of the hospital medical staff and medical society committees responsible for evaluating the professional competence of colleagues. The courts tend to balance the obligation of the medical profession to assure the public of competent practitioners and the right of a physician to maintain his reputation in the community. A certain degree of freedom is necessary to seek and provide information that will permit a realistic and adequate evaluation of the professional competence of colleagues. Individual members of the profession, charged with the responsibility of appraisal, are assured of this freedom by the allowance of considerable latitude in soliciting information and discussing professional qualifications. The defense of a qualified privilege is available in such cases unless communications are motivated by malice.

A triable issue of malice was raised in a 1958 New York case. A physician who had been employed by a nonprofit medical expense indemnity corporation for six years instituted an action for libel and slander based on alleged defamatory statements charging him with professional incompetence. The statements were recorded at a conference held to review his qualifications for purposes of continuing employment, and minutes were recorded. The court held that the statements were protected by a qualified privilege, but that issues were raised with respect to the existence of actual malice in view of the references to previous disputes between the physician and other corporation personnel regarding policy and administrative matters [see *Anonymous v. Health Insurance Plan of Greater New York,* 173 N.Y.S.2d 74 (New York, 1958)].[12]

In a 1962 decision, a New Jersey court considered the question of whether a hospital trustee had maliciously interfered with a physician's status as a member of the medical staff. The trustee allegedly had influenced the joint conference committee and other trustees not to renew a physician's privileges by his assertions that the physician had overcharged the trustee's mother for services and recommended surgery when it was not required. The court stated:

> Persons who serve on the governing boards of institutions, which boards have the obligation to pass upon the qualifications of the personnel, should have the widest latitude in discussing the qualifications of candidates for staff appointments, so long as they act in good faith. Statements made in such discussions are qualifiedly privileged. But the qualified privilege is lost if the statements are made with "malice". . . Malice in this sense may be described as an improper purpose, i.e., a purpose other than furthering the public interest which is legally protected by the qualified privilege [see *Raymond v. Cregar,* 185 A.2d 856, at 861 (New Jersey, 1962)].

The case was remanded for trial of the factual issue of whether the remarks of the trustee were malicious.

Occasionally courts have granted a qualified or absolute privilege to peer review participants who supplied, upon the physician's request, a written list of the charges against him. In a 1966 Michigan decision, a physician whose staff privileges had been curtailed requested that the committee supply the reasons for such action in writing and then sued for libel [see *Schechet v. Kesten,* 141 N.W.2d 641, 644 (Michigan, 1966)]. The letter containing the charges was mailed to the physician, two hospital staff committees, and the hospital administrator. In part, the letter stated:

> Conclusions: Dr. Schechet is so obsessed with insecurity, hate, fear, and frustration that has so warped his judgment, that his activities have become dangerous to the staff, hospital and osteopathic profession. As a staff member, it is my opinion that his record and past activities are indicative of the fact that he falls in the category of causing harm to the corporation and should be permanently suspended from the staff.

Because the plaintiff-physician had requested specification of the charges against him, and such charges were published only to persons with a legitimate interest in the subject matter, the court held that the plaintiff impliedly consented to their publication and that such consent would constitute an absolute privilege and a complete bar to the action for defamation.

Some courts have determined that the privilege is "absolute." In general, an absolute privilege has been judicially confined to only a few situations where there is an obvious policy in favor of permitting complete freedom of expression, such as the proceedings of a court of law or legislature. Where an absolute privilege exists for the purposes of peer review, no inquiry will be made into the defendant's purpose or motive, or the reasonableness of his conduct. Malice is therefore not an issue for the court to consider, although some courts have required, as a condition for absolute privilege, that the statements or communications bear a reasonable relationship to the purposes of the proceeding.

A California court, in interpreting a specific provision of the California Civil Code, has ruled that the same absolute privilege which makes the statements of a witness during an administrative or judicial proceeding absolutely privileged so long as the statements have a connection or relationship to the administrative or judicial proceedings also extends to communications concerning the granting of hospital medical staff privileges and to preliminary statements made in preparation for such a hearing [see *Ascherman v. Natanson,* 100 Cal. Rptr. 658 (California, 1972)].[13] The court's holding was that the credentials committee of the hospital is a quasi-judicial body because it is vested with discretion based upon investigation and consideration of evidence, because it is entitled to hold hearings and decide application of rules of law, and because its power affects personal or property rights. Because the privilege is absolute, malice was not at issue so long as the publication had a "reasonable relationship" to the quasi-judicial action. In a later decision, *Hackenthal v. Weissbein,* 592 P.2d 1175 (California, 1979), a California court limited the absolute privilege to medical staff disciplinary hearings in public hospitals only. This was changed, however, by an amendment to California's confidentiality statute, which declared an absolute privilege for both private and public medical staff disciplinary hearings [see 47(2) Cal. Civ. Code].

Other courts have also found an absolute privilege for statements in connection with peer review. A New Mexico court in 1974 applied an absolute privilege to communications which initiated a form of peer review [see *Franklin v. Blank,* 525 P.2d 945 (New Mexico, 1974)]. The case resulting in that decision concerned a letter sent to certain heads of area medical and osteopathic societies decrying the conduct of the county coroner, an osteopath. An *ad hoc* committee was appointed to review the charges. The court implied that, in order to qualify for absolute privilege, such a communication should be made for the purpose of initiating peer review and that it should be forwarded to parties in a position to take action concerning the charges.

Like the California court, the court in *Blank* grounded its application of the absolute privilege on the analogy of peer review proceedings to judicial proceedings. The court declared that the latter are quasi-judicial in nature, stating that:

> The policy reasons for according the same privilege to quasi-judicial proceedings involving peer review of alleged professional misconduct are at least equally compelling. The appropriate professional societies, by exercising peer review, can and do perform a great public service by exercising control over those persons placed in a position of public trust but nevertheless unfit to bear that responsibility. It is hardly open to dispute that communications initiating such proceedings are an indispensible part thereof and are to be protected by the privilege [525 P.2d at 946].

A dissenting judge stated that under these circumstances, only a "qualified privilege" should be allowed to permit investigation of the issue of malice.

Whether a qualified or absolute privilege would apply to statements made before a hospital executive committee was the issue addressed in a recent case in Illinois. In *Matview v. Johnson,* 388 N.E.2d 795 (Illinois, 1979), one physician sued another for allegedly defamatory remarks made about him before a hospital executive committee. The defendant-physician argued that an Illinois statute conferred an absolute immunity on all statements and communications exchanged during the course of a hospital committee meeting. The lower court agreed and dismissed the cause of action. On appeal, the appellate court reversed. Balancing the interest of the committee in preserving the confidential nature of its proceedings and the interest of the physician in maintaining the integrity of his reputation, the appellate court construed the Illinois statute as creating only a qualified privilege that allows suits for defamation in which the element of malice is alleged.

At least two states have statutorily conferred an absolute privilege for any member of a medical staff committee conducting medical review. An Indiana statute states that:

> The members of any medical staff committee organized for the purpose of conducting medical review. . . shall have an absolute immunity from civil liability for communications made in committee meetings, and reports and recommendations made by the committee arising from deliberations by the committee to the governing board of the hospital staff or another duly authorized medical staff committee [see Ind. Code Ann. Section 4-1606a (1977); see also Cal. Civ. Code Section 47(2) (1979)].

These cases illustrate the current trend by courts and legislatures toward providing maximum possible protection, consistent with basic legal principles, to physicians engaged in self-policing activities. The clear rationale of such decisions is to encourage the medical profession to police its own activities with a minimum of judicial interference. Courts are ill-equipped to pass judgment on the special knowledge required of a physician, particularly when such decisions are likely to affect a physician's ability to earn a livelihood. Although most courts apply a qualified, rather than an absolute, privilege (as indicated by the dissenting justice in the New Mexico case) physicians involved in peer review functions need not fear being held liable in subsequent legal action against them, so long as communications are made in good faith and based on a reasonable belief in the truth of the statements made.

Other Causes of Action: Malicious Interference

The right of a physician to practice his profession is fundamental, and to some extent the law has protected this right from malicious interference by others. Because the key to such lawsuits is malicious intent, state statutes granting immunity to peer review members will not serve as a bar since malice or bad faith must always be alleged. The law has also recognized a privilege for persons who interfere with the practice of a profession if such interference is legally justified. The considerations that determine whether a person is privileged to interfere with another's practice are:

1. The nature of the actor's conduct;
2. The nature of the expectancy with which his conduct interferes;
3. The relations between the parties;
4. The interest sought to be advanced by the actor;
5. The social interest in protecting the expectancy on the one hand and the physician's freedom of action on the other hand; and
6. Whether the act is for the purpose of causing the interference, or whether interference is not desired but is merely incidental to another purpose [Restatement (Second) of Torts 767A (1969)].

These considerations were weighed by the California Supreme Court in *Willis v. Santa Ana Community Hospital Association,* 376 P.2d 568 (California, 1962). The plaintiff in *Willis* was an osteopathic physician who brought an action against other physicians claiming they had maliciously entered into a conspiracy to dominate medical practice and prevent osteopaths from acquiring medical staff privileges in the Santa Ana-area hospitals. In discussing this claim, the court in *Willis* stated:

> Whether there is justification is determined not by applying precise standards but by balancing, in the light of all the circumstances, the respective importance to society and the parties of protecting the activities interfered with on the one hand and permitting the interference on the other [376 P.2d at 570].

In effect, therefore, the courts will analyze such claims not by applying precise standards but by balancing, in light of all the circumstances, the respective importance to society of the activity complained of on the one hand and permitting the interference on the other.

Other Causes of Action: Intentional Interference With a Business Relationship

It is also possible that, in the absence of malice, a physician affected by a review committee's recommendations could bring suit based on an intentional interference with a business relationship. In a 1979 case, an Oregon court dismissed the suit of a radiologist against a hospital administrator, two other radiologists, and two radiology residents for wrongful interference with a business relationship [see *Straube v. Larson,* 600 P.2d 371 (Oregon, 1979)]. The plaintiff-radiologist was suspended, and he alleged that this was due to the actions of the defendants, which interfered with the performance of an exclusive contract he shared with other radiologists and the hospital. A lower court dismissed his suit without trial, and the radiologist appealed.

The court in *Straube* framed the rules governing the success of a suit based on this cause of action. In order to sustain the charge, said the court, the physician would have to show that the hospital interfered for an improper purpose or used improper means to effect such interference and that the physician was injured beyond the bare fact of the interference. In addition, the court stated that the physician would have to show not only that the hospital interfered in an intentional sense (i.e., the hospital knew that its action would lead to the interference) but that the hospital also had a duty of noninterference. The court held that the evidence was sufficient to sustain the charge against all but one of the defendants. In addition, the court denied admission of the transcripts of testimony and records of the hearing before the hospital medical staff executive committee and review committees under the Oregon nondiscovery statute.

Chances of a peer review physician becoming involved in a suit based on the intentional interference with a business relationship are remote due to (1) the quality of evidence needed to sustain the charge, (2) the statutes in every state, which generally impede the ability to discover evidence from the medical review committees, (3) the relatively little case law supporting this cause of action, and (4) the infrequency of actions based on this cause of action involving hospital-based physicians having exclusive contracts with their hospitals.

Antitrust

To maintain an antitrust action, a physician would first have to satisfy the threshold requirement of showing that the activities of the peer review committee affected interstate commerce within the meaning of the Sherman Act. This has traditionally proved to be a formidible barrier to antitrust actions involving physicians' hospital privileges. In addition, the physician would also have to show that peer review physicians combined or conspired to limit some aspect of the hospital business or that they had monopolized or attempted to monopolize a part of interstate commerce within the meaning of the Sherman Act.

Finally, the physician may have to show that the activity complained of extended beyond the hospital itself. In 1975, a federal court illustrated this concept by dismissing a physician's antitrust claim against a peer review physician whose recommendation resulted in the reduction of his surgical privileges, stating:

> Where the act complained of is the act of a corporation, the fact that the concurrence of a number of the personnel of the corporation is required to generate the corporate act does not satisfy the Sherman Act's requirement of an agreement, combination, or conspiracy [see *Sokol v. University Hospital, Inc.*, 402 F. Supp. 1029 (1975) at 1030].

Courts have recognized a narrow exception to the general rule, however. This exception provides that a violation can occur if the officer, agent, or employee has an independent, personal stake in achieving the object of the conspiracy [see, e.g., *H&B Equipment Company, Inc. v. International Harvester Company*, 577 F.2d 239, 244 (5th Cir. 1978); *Greenville Publishing Company, Inc. v. Daily Reflector, Inc.*, 496 F.2d 391, 399 (4th Cir. 1974)].

Suits alleging wrongful denial of medical staff privileges based on antitrust grounds have occasionally sought discovery of medical review proceedings and succeeded [see *Robinson v. McGovern*, 83 F.R.D. (W.D. Pa. 1979); *Ott v. St. Luke Hospital of Campbell County, Inc.*, No. 80-138 (September 23, 1981); *Feminist Women's Health Center v. Mohammad, M.D.*, 586 F.2d 530 (5th Cir., 1978), cert. denied 444 U.S. 924 (1979); *Memorial Hospital v. The Honorable Milton I. Shadur*, 5 Trade Reg. Rep. (CCH) chapter 64,353 (7th Cir., Nov. 18, 1981)]. However, no case is reported where a physician successfully sued another physician on antitrust grounds arising out of participation on a medical review committee.

Discovery of Committee Records

In the absence of specific statutory exclusions or court decisions, the records of hospital and medical society review committees can be reached by subpoena for purposes of pretrial discovery.[14] Discovery of such records does not mean that they will be admissible as evidence, of course, since the courts rule on admissibility on a case-by-case basis.

Even without a statute, courts have prohibited or limited discovery on the basis of several rationales. In a 1962 case, a New York court refused to permit the subpoena of records of "any and all medical staff discussions and meetings of committees" relative to the performance of surgery that was the subject of a professional liability action [see *Judd v. Park Avenue Hospital*, 235 N.Y.S.2d 843, affirmed 235 N.Y.S.2d 1023 (New York, 1962)]. The court held that the statements contained in the committee records were hearsay and, thus, inadmissible as evidence. The court distinguished the committee reports, however, from entries in the medical records made contemporaneously with treatment.

In 1963, a California court employed a different theory. Where a committee of physicians was required to review professional liability claims against other physicians covered under a group insurance plan, the court refused to permit subpoena of the committee's records. Since the committee was required to meet with an insured physician and his attorney to hear the physician's version of the litigated matter; to interrogate him; to review evidence; and to discuss, advise, and make recommendations to the attorney, the court ruled that the committee's decisions came within the qualified "work product" privilege of attorneys. The purpose of the committee's deliberations were permitted. In the interest of fairness, discussions at such a meeting were considered privileged under the "work product" rule [see *Brown v. Superior Court*, 32 Cal. Rptr. 527 (California, 1963)].

Another California decision restricted the "work product" rule to specific types of committee records and allowed discovery of hospital disciplinary committee records [see *Kenney v. Superior Court*, 63 Cal. Rptr. 84 (California, 1967)]. A physician who had been sued for malpractice brought this action to prevent access by the patient to hospital records pertaining to the physician's status on the hospital staff, disciplinary proceedings against him and removal from the staff, prior instances of professional negligence, and the names and addresses of medical experts with whom he had conferred with regard to this patient. The court did not require disclosure of the names and addresses of the experts. The physician and his attorney had discussed with these experts (some of whom were members of a medical committee) with medical care, treatment, and prognosis in this case; consequently, disclosure would violate the attorney's "work product" privilege. With regard to the other committee records, however, the court stated:

> Records of disciplinary proceedings, or of the status of a doctor on a hospital staff, or of his removal therefrom, may or may not be admissible in evidence. Even if admissible, such records may very well point the way to evidence admissible in a medical malpractice action.
>
> It would be unrealistic and time consuming, however, to require plaintiff first to exhaust all discovery processes to determine precisely what the hospital does possess fitting the prescription of the demand as a condition precedent to the issuance of the subpoena duces tecum. Production contemporaneous with the taking of the deposition of the custodian conserves time, helps speed the progress of the litigation to its ultimate trial and determination, and can do no harm. The custodian cannot produce that which he does not have. Neither harassment nor oppression is involved [63 Cal. Rptr. at 86].

Thus, the court balanced concern for legitimate ascertainment of facts relevant and material to the issues being litigated against interference with a litigant's right of privacy. In discussing why this balancing rules out disclosures that fall within the "work product" rule, the court added the following cautionary statements:

> We are aware of possible abuses of the so-called "medical committee" system. Obviously, it is not in the interests of justice to countenance any attempt by defendant or his counsel in a medical malpractice action to "corner" the supply of "top-drawer" medical experts, silencing them as potential plaintiff's witnesses by the process of placing them on a committee to be consulted by the defense in every claim against a doctor for malpractice. In small communities the evils of such practice could be particularly aggravated since plaintiffs must bear the burden of proving negligence where the test thereof is the doctor's failure to exercise the standard of skill of the doctor practicing in that community. Nevertheless, the court has the power to exercise controls to prevent such abuses. The "work product" privilege is not an absolute one, as we have shown. No such abuse as that assumed above has been shown here . . . Harassment of committee members subjecting them to importunement to disclose information received from, or imparted to, defendant or his attorney would destroy the efficacy, if not the existence, of these committees [63 Cal. Rptr. at 89].

Following this decision, Section 1157 of the California Evidence Code was enacted to provide additional protection from discovery of hospital medical staff and medical society review committee records in professional liability litigation. This statute has been interpreted as mandating the confidentiality of the proceedings of the credentials, records, tissue, and executive committees of a hospital but permitting continued discovery of administrative files of the hospital administration. This interpretation resulted from a request by a malpractice plaintiff for reports on preceedings involving granting a physician staff privileges [see *Matchett v. Superior Court for the County of Yuba,* 115 Cal. Rptr. 317 (California, 1974)]. Section 1157 has also been recently interpreted to prevent a newspaper from obtaining hospital audit reports and medical staff executive committee minutes under the California Public Records Act. [see *McClatchy Newspapers v. University of California at David Medical Center* (Cal. Super. Ct., Sacremento Co., Docket No. 300115, Jan. 20, 1982)].

Similarly, a Hawaii statute protecting the confidentiality of records of medical staff and medical society peer review committees has been upheld [see *Silver v. Gordon,* (Cir. Ct., Honolulu, Hawaii) (Sept. 21, 1971)], and a Texas statute was applied to protect the reports of a committee reviewing the implantation of the first mechanical heart [see *Karp v. Cooley,* 493 F.2d 408 (5th Cir., 1974)].

In 1970, the Superior Court of New Jersey held that a plaintiff in a medical malpractice action was entitled to discovery of the reports of the perinatal mortality committee of the hospital [see *Gureghian v. Hackensack Hospital,* 262 A.2d 442 (New Jersey, 1970)]. The court distinguished the New York rules of discovery pertaining to the disclosure of documents from those of New Jersey. In New York, discovery is permitted only of matters that constitute admissible evidence. In New Jersey, "if the report is relevant to the issues of the pending action and it can reasonably lead to the discovery of admissible evidence, it is capable of discovery even though it might be inadmissible in the trial of the action [262 A.2d at 442]." The New Jersey court did not follow the 1962 New York decision in which comparable discovery was not permitted.

The scope of statutes prohibiting discovery of medical review proceedings has been the subject of recent opinions by the supreme courts of Colorado, Oklahoma, Texas and Georgia. In Colorado, a minor sued a neurosurgeon and a hospital for negligence in connection with surgery performed. Following the surgery, the neurosurgeon's admitting privileges were suspended and an *ad hoc* committee was formed to investigate the plaintiff's treatment. As part of his discovery, the minor's attorney sought to depose the *ad hoc* team of physicians who investigated the case. The hospital moved to quash the deposition, citing a Colorado statute stating that "all records of a review committee shall not be subject to subpoenas in any civil suit" against a physician. The minor's attorney, however, argued that the statute was inapplicable because the suit was against the hospital, not the physician. Recognizing that this would defeat the intent of the statute, the Colorado Supreme Court construed the statute as applicable to any civil proceeding regardless of whether the defendant was a physician or a hospital [see *Posey v. District Court in and for the Second Judicial District,* 586 P.2d 36 (Colorado, 1978)].

The question of whether the Oklahoma legislature intended the records of a hospital infection committee to be privileged and nondiscoverable was the issue before the Oklahoma Supreme Court in *City of Edmond v. Parr,* 587 P.2d 56 (Oklahoma, 1978). The parents of a child who contracted a severe staphylococcus infection during a hospital stay sued the hospital and a physician for negligence. As part of his pretrial preparation, the child's attorney attempted to review records of the hospital infection committee. The hospital moved to prevent such efforts, citing an Oklahoma statute that declared "all information, interviews, reports, statements, memoranda, or other data" privileged communications that could not be used or offered in evidence in any legal proceeding. Rejecting arguments that such language applied only to state agencies as opposed to private hospitals, the court held the requested records privileged.

Similarly, in Texas a plaintiff in a malpractice action sought discovery of certain hospital review committee records in connection with an action against the hospital. The hospital moved to suspend such efforts, citing a Texas statute that protected all "records and proceedings of any hospital committee" except those "records made or maintained in the regular course of business by a hospital . . ." Rejecting arguments that review committee records constitute "records made or maintained in the regular course of business," the Texas Supreme Court construed the statute to exempt only those records kept in connection with the treatment of individual patients and business and administrative files [see *Texarkana Memorial Hospital, Inc. v. Jones,* 551 S.W.2d 33 (Texas, 1977)].

The constitutionality of statutes that prohibit discovery of review proceedings has been considered in at least two cases [see *Young* v. *Gersten,* 381 N.E.2d 353 (Ohio, 1978); *Eubanks* v. *Ferrier,* 267 S.E.2d 230 (Georgia, 1980)]. In both cases, the statutes withstood constitutional attack. In *Eubanks,* however, the Supreme Court of Georgia also considered the question of whether a Georgia statute that prohibited discovery of all review committee "proceedings and records" would preclude the depositions of two physicians who had taken part in a review concerning a surgeon's staff privileges. The Georgia court held that the statute would allow the physicians to refuse to answer questions or give information concerning the proceedings and records of the committee, although the physicians could respond to hypothetical questions based on facts in evidence which had been obtained from nonprivileged sources [267 S.E.2d at 233].

The *Eubanks* decision was cited with approval in a recent case involving the same statute before the Georgia Supreme Court [see *Hollowell* v. *Jove, M.D.,* 279 S.E.2d 430 (Georgia, 1981)]. The *Hollowell* case addressed the issue of whether a plaintiff in a malpractice action against a physician could, as part of his discovery, ask questions concerning any hearing or proceeding conducted to investigate the physician's treatment of patients other than the plaintiff. To this, the Georgia Supreme Court answered no. Initially citing the *Eubanks* decision for the proposition that " . . . the intent of the statute precluding discovery of review committee proceedings was to foster the delivery of quality medical services by preserving the candor necessary for the effective functioning of hospital medical review committees . . . [page 5]," the court went on to construe the term "proceedings and records" to preclude discovery of other patients' records reviewed by the committee.

In the context of a malpractice suit, just how protected are the review committee proceedings? Must the committee submit information to a court so that, in private, the court can determine whether specific documents fall within the protection of the statute? An Illinois appellate court answered in the negative [see *Mennes* v. *South Chicago Community Hospital,* 427 N.E.2d 952 (Illinois, 1981)]. In a malpractice suit against two doctors and a hospital, plaintiff's attorneys sought "all material regarding the granting of privileges regarding the defendant doctors" from the hospital, even though an Illinois statute protected "all information, interviews, reports, statements, memoranda, and other data" of hospital committees. Plaintiffs argued they were entitled to a private showing in court of just which documents fell within the scope of the statutory privilege. This was unnecessary, said the court, in view of the clear intent of the statute protecting the material sought.

Nondiscovery has also been ordered based on considerations of public policy.[15] In 1970, a federal district court for the District of Columbia, in a well-reasoned decision, upheld the confidentiality of hospital review committee proceedings and on public policy grounds denied the plaintiff in a professional liability suit access to such proceedings [see *Bredice* v. *Doctor's Hospital, Inc.,* 50 F.R.D. 249 (D.C. Dist. Col. 1970)]. The court stated:

> Confidentiality is essential to effective functioning of these staff meetings; and these meetings are essential to the continued improvement in the care and treatment of patients. Candid and conscientious evaluation of clinical practices is a *sine qua non* of adequate hospital care. To subject these discussions and deliberations to the discovery process, without a showing of exceptional necessity, would result in terminating such deliberations. Constructive professional criticism cannot occur in an atmosphere of apprehension that one doctor's suggestion will be used as a denunciation of a colleague's conduct in a malpractice suit.
>
> The purpose of these staff meetings is the improvement, through self-analysis, of the efficiency of medical procedures and techniques. They are not a part of current patient care but are in the nature of a retrospective review of the effectiveness of certain medical procedures. The value of these discussions and reviews in the education of doctors who participate, and the medical students who sit in, is undeniable. This value would be destroyed if the meetings and the names of those participating were to be opened to the discovery process [50 F.R.D. at 256].

The value of the opinion was enhanced when a second judge of the district court adhered to the ruling on October 12, 1970, following amendment of the Federal Rules of Civil Procedure [effective July 1, 1970; see *Bredice* v. *Doctor's Hospital, Inc.,* 51 F.R.D. 187 (D.D.C., 1970)]. Public policy arguments have also been used to suppress other kinds of documentation. A federal court in Georgia found that the report of a team of employees looking into plant equal-opportunity problems was not subject to discovery because it could reasonably have been concluded that the investigation was made in preparation for a trial and that it was the "work product" of an attorney. The court was most concerned about public policy issues, however:

> The court looks on this as an important issue of public policy to discourage frank self-criticism and evaluation in the development of affirmative action programs of this kind [citing *Bredice*] [See also: *Banks* v. *Lockhead,* 53 F.R.D. 283 at 285 (N.D. Ga., 1971)].

Other courts have denied discovery of review committee proceedings based on the same public policy rationale. In a recent Florida case the plaintiff, who sued a physician in connection with treatment at one hospital, sought discovery of review committee proceedings at another hospital. Because the applicable Florida statute prohibited discovery of records in any civil action "arising out of matters which are the subject of evaluation and review by such committees," and the subject of evaluation had nothing to do with plaintiff's treatment by the physician, a lower court allowed discovery of the materials requested. On appeal, however, the court of appeals reversed. Recognizing the inapplicability of the Florida statute, the court nevertheless prohibited discovery on the basis of public policy, stating that: "The arguments in favor of confidentiality of the records are so compelling that discovery should be allowed only in the most necessitous circumstances" [see *Segal* v. *Roberts,* 380 So.2d 1049 (Florida, 1980); see also, *Dade County Medical Association,* 372, So.2d 117 (Florida, 1979)].

In *Dade County,* plaintiff was treated by two physicians in connection with a car accident. Plaintiff sued the driver of the other car and, at the same time, subpoened records of the local medical society in connection with the two physicians. Because the suit was against the driver of the other car and not the physicians, a lower court allowed discovery of the materials requested. The court of appeals reversed. Again noting the inapplicability of the Florida statute, the court of appeals denied discovery based on grounds of public policy, citing the "overwhelming public interest in maintaining the confidentiality of such records [372 So.2d at 121]."

An Arizona decision distinguished between statements and information considered by a review committee and the actual minutes and reports of such a committee [see *Tucson Medical Center* v. *Misevch,* 545 P.2d 958 (Arizona, 1975)]. Under the applicable Arizona statute, the court ruled that the latter were not subject to subpoena. Information that was presented to the committee, however, was held to be subject to a limited form of discovery under which the information is first submitted to the judge in private and the judge determines whether it is discoverable.

In a Kentucky case, suit was brought against a hospital for granting temporary staff privileges to a particular physician [see *Nazareth Literary & Benevolent Institution* v. *Stephenson,* 503 S.W.2d 177 (Kentucky, 1973)]. The hospital claimed total immunity from discovery. The court, in ruling that there is no confidentiality extending to the reports of staff committees involved in granting privileges, rejected out of hand the "work product" argument of the *Brown* case and held that the patient was entitled to any records of disciplinary proceedings involving the physician's staff privileges. Since the time of that decision, however, Kentucky has passed a statute that effectively protects the proceedings and records of a peer review committee from discovery [see Ky. Rev. Stat. §311.337 (1976)]. A later decision found constitutional those portions of the new statute pertaining to discovery proceedings [see *McGuffey* v. *Hall,* 557 S.W.2d 401 (1977)].

A New Jersey court ruled that the nondisclosure provisions of the state's statute that applied to utilization review committees implementing provisions of medicare, cannot be broadened to include other hospital committees (such as medical records and audit, tissue, infection control, and medical staff council) [see *Young* v. *King,* 344 A.2d 792 (New Jersey, 1975)]. The court adhered to the specific wording of the statute that afforded protection only to utilization review committees.

Discoverability of Records in Connecticut

Conn. Gen. Stat. Section 38-19a (P.A. 80-446) provides in relevant part that:

> The proceedings of a medical review committee conducting a peer review shall not be subject to discovery or introduction into evidence in any civil action for or against a health care provider arising out of the matters which are subject to evaluation and review by such committee.

This statute has been interpreted at least one time in recent past. In *Morse* v. *Gerity, M.D.,* Civ. No. B-78-217 (D. Conn., June 4, 1981), the question arose as to whether the above statute would protect proceedings involving only the patient seeking records or all review proceedings in which the patient's physician was ever involved. In *Morse,* a patient sued a physician for malpractice and sought to subpoena certain peer review proceedings involving the physician's treatment of other patients. In support of the subpoena, the patient argued that the above statute should be construed to protect only those records in which the patient was discussed; the hospital argued that the statute was broader in scope and protected all proceedings in which the physician was ever involved.

In resolving this question, Judge Eginton reviewed the legislative history underlying the statute and concluded that the Connecticut legislature intended that physicians be encouraged to evaluate other physicians in as candid a fashion as possible, noting that the "overriding importance of these review committees to the medical profession and the public requires that doctors have unfettered freedom to evaluate their peers in an atmosphere of complete confidentiality." Accordingly, the court granted the hospital's motion to quash the subpoenas, and the hospital was not required to produce its records of peer review proceedings for the patient.

Judge Eginton's decision has no precedent value insofar as state courts or other federal decisions. Moreover, the decision relates only to hospital peer review proceedings. Even so, the court's analysis should provide persuasive support in favor of maintaining the confidentiality of peer review records in future cases.

Admissibility of Committee Records as Evidence

There have been no reported court decisions in which the reports of hospital or medical staff review committees have been admitted as evidence. Such reports are considered hearsay evidence that is generally not admissible.

In addition, reports of medical committees responsible for evaluating the professional competence of physicians are generally not relevant to issues that may be raised in civil litigation as a general rule. The purpose and function of such committees is to educate the medical profession so that the quality of medical care may be improved on a continuing basis, not to determine the legal responsibilities of a physician to his patient. Although the committees may review and evaluate the care received by a patient who suffers an unfortunate result, the committees function as a body of scientific review and not as a legal tribunal.

Conclusions

There is general agreement that only the medical profession is qualified to evaluate the professional competence of physicians and the quality of medical care they provide. Public policy favors protecting those activities of the profession designed to improve standards of professional competence and elevate the quality of care available to the public. Statutes in every state have codified this protection in varying degrees. The members of professional review committees are protected by a qualified privilege when seeking and acting on information that may be derogatory to the reputation of colleagues. Actions for libel, slander, or defamation brought by a physician whose services are being evaluated will not be actionable in the absence of proof of negligence in ascertaining those facts upon which review committee determinations are based, or of actual malice in publication of information pertaining to the physician's work. Similarly, patients whose records are reviewed for purposes of evaluating the quality of medical care provided or the competence of an attending physician will have difficulty in recovering for invasion of privacy in the absence of a showing that the committee made indiscriminate use of confidential information that could be clearly traced to an individual patient.

In reaching decisions, courts have always balanced social and public policy considerations against possible injury to individuals. In the case of the records and activities of peer review committees, public policy apparently favors as much freedom as possible for the members of such committees to act in the public interest and the provision of the maximum degree of protection possible to the records of such committees. For this reason, conducting objective reviews of the professional work of colleagues does not appear to increase the exposure of physicians to legal problems. The courts are likely to provide as much immunity and protection as possible as long as the activities of the committees promote higher standards of medical care and assure the public of access to competent practitioners.

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12. On final appeal, the trial and appellate court decisions were overturned. A higher court determined that the physician-plaintiff had not as a matter of law established a triable issue of malice. *Shapiro v. HIP,* N.Y.2d (New York, 1959).
13. See *Goodley v. Sullivant,* 108 Cal. Rptr. 451 (California, 1973) where the court specifically applied the doctrine of absolute immunity even though the California Civil Code provides a qualified privilege for any act or proceeding concerned with professional standards of physicians and other professionals. See also: *Ascherman v. San Francisco Medical Society,* 114 Cal. Rptr. 681 (California, 1974), where the statute was interpreted to protect only members acting without malice. But cf: *Dimiceli v. Klieger,* 206 N.W.2d 184 (Wisconsin, 1973).
14. See *Davison v. St. Paul Fire and Marine Insurance Company,* 248 N.W.2d 433 (Wisconsin, 1977), to effect that, in absence of state statute, no common-law privilege exists to prevent discovery of hospital guidelines and review committee proceedings; followed, *Shibilski v. St. Joseph's Hospital of Marshfield, Inc.,* 266 N.W.2d 264 (Wisconsin, 1978).
15. *Bredice v. Doctor's Hospital, Inc.,* 50 F.R.D. 249, (1970 D.C. Dist. Col.) adhered to 51 F.R.D. 187 (D.C. Dist. Col.), aff'd without op 156 App. D.C. 199, 479 F.2d 920 (C.A.D.C., 1973), followed, *Oviatt v. Archbishop Bergan Mercy Hospital,* 214 N.W.2d 490 (Nebraska, 1974).

Ala. Code Tit. 34, §24-58 (1976)

Immunity is extended to members of any committee of physicians and surgeons acting as a committee of a state, county, or municipal medical association, or of any licensed hospital, clinic, or medical staff, provided they act in good faith, without malice, and on the basis of facts reasonably known or believed to exist, within the scope and function of that committee.

Decision, opinions, actions, and proceedings of such committees are *privileged.*

Alaska Stat. §18.23.010 et seq. (1976)

Immunity from liability is provided to persons providing information to a review organization unless the information is false and the person providing it had reason to believe it was false. *Immunity* is provided to members, employees, or advisers of review committees for performance of the duty, function, or activities of the review organization, unless the performance was motivated by malice, or if the person did not act in reasonable belief that the action or recommendation was warranted by facts known to him or the organization after reasonable efforts to ascertain the facts were made.

All data and information acquired by a review organization may not be disclosed and are *nondiscoverable* except by those who have been reviewed by the organization. All data and information are also *inadmissible* as evidence.

Ariz. Rev. Stat. § §36-445—36-445.03 (1976)

Immunity is extended to members, agents, or employees of hospital, medical, or administrative staff, or review committees, and those who furnish records, information, or assistance to such staff or review committees, acting without malice and in good faith.

The information considered by the medical staff, its officers and committees, and the records and proceedings shall be *confidential* and *nondiscoverable,* except by a judge in a judicial proceeding. At the discretion of the judge, such information may be *admissible* as evidence.

Ark. Stat. Ann. § §82-357—82-359 (1969), 82-3201—82-3204 (1975)

Immunity is extended to members of peer review committees acting within the scope of the function of such committees and without malice or fraud (82-3202).

Such committees' records are *nondiscoverable* and *inadmissible* as evidence, unless otherwise available from original sources, and members are not permitted to testify about the proceedings (82-3204). Records are available for medical research and no liability shall arise from such use.

The identity of patients must remain *confidential* (82-357). A 1977 statute extends the same immunities to members of the State Board of Medical Examiners. Another 1977 statute provides the same protections of immunity to members of health systems agencies.

Cal. Civ. Code § §43-7—43-8 (1980), Cal. Evid. Code § §1157 (1978), 1157.5 (1980)

Immunity is provided for members of duly appointed committees of state or local professional societies or hospital medical staffs for acts performed within the scope of authorized functions to maintain professional standards if they act without malice after making a reasonable effort to ascertain the facts. "Professional society" for purposes of this section includes legal, medical, psychological, dental, dental hygiene, accounting, optometric, podiatric, pharmaceutic, chiropractic, physical therapist, and engineering if a majority of the eligible licentiates in a geographic area are served by the particular society. No cause of action is allowed for damages for information provided to aid in evaluation of practitioners of the healing arts when the provider reasonably believes the matter true. A 1978 statute extended the same protections to members of hospital governing boards.

The proceedings and records of organized committees of hospital medical staffs, medical societies, dental societies, chiropractic societies, or an organized committee of any nonprofit medical care foundation that is a subsidiary of a medical society responsible for evaluating and approving the quality of care shall be *nondiscoverable.*

Colo. Code § §12.43.5-101, 13.21.110 (1975)

Immunity is extended to members of utilization review committees, exercising the functions of the committee, except for willful or reckless disregard of the patient's safety.

Information provided to such committees shall be *confidential* and shall be used only in the exercise of the proper functions of the committee, or in other peer review activities.

Conn. Gen. Stat. §38-19a (1978)

Immunity is extended to any person who provides testimony, information, etc. to any hospital, hospital medical staff, professional society, medical or dental school, professional licensing board of medical review committee when such committee is intended to aid in the evaluation of the qualifications, fitness, or character of a health care provider and does not represent as true any matter not reasonably believed to be true. *Immunity* is also extended to members of medical review committees for acts or proceedings performed within the scope of any such committee's functions provided action is taken or recommendations are made without malice and in the reasonable belief that the act or recommendation was warranted.

The opinions of a medical review committee shall be *nondiscoverable* and *inadmissible* into evidence in any civil action against a health care provider, and no person in attendance to a meeting of such committee shall be required to testify.

Del. Code tit. 24, § §1191, 1768 (1976)

Immunity is extended to members of hospital medical staff and professional association committees whose function is the review of medical records and physicians' work for the purpose of improving quality and utilization of care and who perform such functions in good faith without malice. No person in attendance at a meeting of any such committee shall be required to testify. *Immunity* is also extended to those who provide information to such committees or organizations.

The records and proceedings of any such committee or organization shall be *confidential* and shall be used only in the exercise of the proper functions of the committee or organization and shall be *nondiscoverable.*

D.C. Code § §32-362—32-365 (1978)

Immunity is provided to members of medical utilization review committees, peer review committees, medical staff committees, or tissue review committees for actions taken or recommendations made within the scope of the functions of the committee and in the reasonable effort to obtain the facts. *Immunity* is also extended to any person who transmits, with the consent of the patient, any information to such committees.

The minutes, findings, and reports of such committees shall be *nondiscoverable* and *inadmissible* into evidence, absent a showing of extraordinary necessity. This qualified privilege does not extend to primary health records or to oral or written statements presented before such committees.

Fla. Stat. §768.40 (1980)

Immunity is extended to members of medical review committees of state or local professional societies and medical staffs of licensed hospitals when evaluating the quality of care, medical necessity, compliance with applicable standards of care, or cost of such care if the committee members act without malice.

The proceedings and records of such committees shall be *nondiscoverable* and *inadmissible* into evidence in civil actions against providers of professional health services arising out of matters being evaluated or reviewed, and committee members cannot be required to testify in such civil actions as to matters that have been the subject of the specified review. Protection from *discovery* does not extend to the original documents utilized by committees in conducting reviews.

Ga. Code § §88-3201—88-3204, 105-114 (1975)

Immunity is extended to members of committees formed by professional societies or medical staffs of hospitals, nursing homes or medical foundations or of peer review committees acting within the scope of the committee and without malice or fraud.

The proceedings and records of such committees are *nondiscoverable* and *inadmissible* as evidence, and no person in attendance at a committee meeting may testify. Exception is made for information otherwise available from original sources.

Haw. Rev. Stat. § §663.1.7, 624.25.5 (1975)

Immunity is extended to authorized members of licensed hospital medical and dental staffs or professional society peer review committees for authorized activities performed without malice after making reasonable efforts to ascertain the truth of the facts on which the actions are based (663.1.7).

The records and proceedings of such review committees are *nondiscoverable* and no person in attendance at committee meetings, unless he is a party to an action the subject matter of which was reviewed at such meeting, can be required to testify as to the review proceedings (624.25.5). The highest level peer review committee of a medical society, hospital, or other health care institution shall report adverse decisions made by it to the Board of Medical Examiners.

Idaho Code § §39-1392—39-3192e (1973)

Immunity is extended to members of hospital medical staff and medical society review committees when engaged in research studies or disciplinary hearings, or when performing evaluations of the quality of medical care.

The records and reports of such committees are to be treated as *confidential* and qualifiedly privileged, and are *nondiscoverable* and *inadmissible* as evidence.

Ill. Rev. Stat. ch. 51, § §101-105 (1979), ch. 111 §4406 (Smith-Hurd, 1977)

Immunity is extended to persons serving on any medical review committee whose purpose is internal quality control, medical study to reduce morbidity or mortality or to improve patient care within a hospital, or professional discipline. No immunity is granted for willful or wanton misconduct. In addition to members of the committee, immunity is extended to "any person providing service to such committees."

All information, interviews, reports, statements, and records of such committees are *confidential* and *inadmissible* as evidence.

Ind. Code Ann. §42-1606a (1971)

Immunity is extended to the personnel of a peer review committee for any act or statement made in the confines of the committee, or any proceeding thereof, made in good faith, in regard to the evaluation of patient care, and to persons or organizations, including such committees which furnish records, information, or assistance to a peer review committee.

All proceedings of a peer review committee shall be *confidential, nondiscoverable,* and *inadmissible* as evidence. All communications to a peer review committee shall be *privileged.* No person in attendance at such committee proceeding shall be required to testify.

Iowa Code § §147.135 (1975), 258A.6 (1980)

Immunity is provided to members of peer review committees acting without malice and under the authority of a licensed board.

Complaint files, investigation files, and all other investigation reports and information in the possession of a licensing board or peer review committee acting under the authority of a licensing board shall be *privileged* and *confidential* and shall be *nondiscoverable* and *inadmissible* as evidence in any judicial proceeding.

Kan. Stat. § §65-442 (1976), 65-4909 (1978)

Immunity is extended to duly apppointed members of hospital governing boards and medical staff review committees or state, regional, or local associations of health care providers for acts, statements, and proceedings within the scope of the function of such committee, provided actions are taken in good faith and without malice, and the medical staff operates pursuant to written bylaws approved by the governing board of the medical care facility.

Ky. Rev. Stat. §311.377 (1978)

Immunity is extended to physicians, podiatrists, and dentists serving on any duly constituted committee, commission, or board of a licensed hospital, professional association, medical care foundation affiliated with a professional association or governmental agency when reviewing and evaluating the professional services of physicians, and recognized Health Planning Councils, provided actions are taken in good faith. *Immunity* is also extended to those who provide information to such committees.

Proceedings, records, opinions, conclusions, and recommendations of any such committee, are *confidential* and *privileged* and shall be *nondiscoverable* and *inadmissible* into evidence in an civil action in any court.

La. Rev. Stat. Ann. §44:7(D) (1979)

Immunity is extended to individuals providing information to and taking action in the name of hospital or medical organization committees if acting without malice and with reasonable belief that such action is warranted by the facts known to them.

Records and proceedings of such committtees are *confidential* and *nondiscoverable.* Records used for research purposes are *confidential* and not subject to subpoena, and individuals providing information for such purposes are immune from liability provided patient identities are not revealed.

Me. Rev. Stat. tit. 32, § §2596, 2599, 3293, 3296 (1975)

Immunity is provided to physicians for acts, decisions, or omissions while serving as members of utilization review, medical review, surgical review, disciplinary, or peer review committees.

Records of medical staff review committees are *confidential* and *nondiscoverable* unless good cause is shown.

Md. Code Ann. art. 43, § §134A (1974), 136C (1975)

Immunity is extended to members of medical review committees and persons communicating information to such committees when communication is made in good faith and does not include information not reasonably believed to be true.

Records of such committees are *nondiscoverable* and *inadmissible* in civil actions.

Mass. Gen. Laws Ann. ch. 231, §85N (1972)

Immunity is extended to members of duly appointed professional society or licensed hospital committees, and to the hospital, when acting within the scope of required duties, provided action is taken in good faith and in the reasonable belief, based on all the facts, that the action or inaction is warranted.

Mich. Stat. Ann. § §14.15 (16243, 16244, 2017.5(5)), 14.57 (21, 22, 23) (1979)

Medical staff committees are required to perform reviews of the quality of care and the competence of members in all licensed hospitals and the records and data used by and reports of such committees are *nondiscoverable* and *inadmissible* as evidence.

Immunity is extended to "members" and institutions furnishing information regarding "the medical condition and medical treatment of any person . . . " or acting on it for purposes of evaluating and improving quality of care. Immunity is available to members of medical society, specialty society, and institutional review committees and protects confidentiality of records and patients' names. Hospitals are required to report any disciplinary action, and the circumstances surrounding the removal or resignation of any staff physician, to the licensing board.

Minn. Stat. § §145.61—145.67 (1976)

Immunity is provided for members of a review organization (including morbidity and mortality, peer review, utilization review, PSRO, disciplinary, claims review, tissue review committees, and committees evaluating granting of hospital staff privileges) from actions brought by individuals under review because of performance of duty, function, or activity unless activity was motivated by malice or unless there was no reasonable basis for an action or recommendation.

All data and information acquired by a review organization are to be held in *confidence* and are *nondiscoverable* except information presented at a committee regarding granting staff privileges. All data and information are *inadmissible* as evidence. No person may disclose the proceedings of a review committee except as is necessary to carry out the function of the committee. Witnesses cannot be questioned about testimony before a review organization or about their opinions formed as a result of its hearings.

Miss. Code Ann. § §41-63-1—41-63-9, 73-25-67, 73-25-91 (1977)

Immunity is extended to members of medical or dental review committees. Members are immune from civil liability if acting within the scope of the committee, without malice and with reasonable belief that the action is warranted. *Immunity* is also extended to those providing information to such committees without malice and in the reasonable belief that such information is accurate.

The records of such committees are *nondiscoverable* and *inadmissible* in civil actions.

Mo. Rev. Stat. §537.035 (1977)

Immunity is provided to physicians, dentists, podiatrists, optometrists, and pharmacists acting as authorized members of peer review committees established by professional societies or by the medical staff of a hospital and to members of governing boards of hospitals acting upon recommendations of such committees for any action taken or recommendation made within the scope and function of the committee, without malice, and supported by credible evidence.

Mont. Rev. Codes Ann. §§66-1052 (1975), 69-6301—69-6304 (1969)

Immunity is extended to members of utilization review committees of hospitals, peer review or PSRO committees of medical societies, and members of nonprofit corporations performing peer review or PSRO functions, for any action taken or recommendation made within the scope of the functions of that committee, if made without malice and in the reasonable belief that the action was warranted by the facts, after reasonable effort to obtain the facts. The proceedings and records of such committees are *confidential* and *inadmissible* in any proceeding. Members of such committees or persons appearing before them cannot be questioned about testimony or other proceedings before such committees.

Neb. Rev. Stat. §§71-147.01 (1976), 71-2046—71-2048 (1971)

Immunity is provided to members of peer review committees of state or local associations composed of health care practitioners for any action taken or recommendation made within the scope or functions of such committees, if the committee members act without malice and in the reasonable belief that such action or recommendation is warranted by the facts after a reasonable effort is made to obtain the facts.

The proceedings of medical staff and utilization review committees of licensed hospitals are *nondiscoverable* unless (1) the privilege is waived by the patient and (2) a court of record, after hearing and for good cause arising from extraordinary circumstances being shown, orders disclosure.

Nev. Rev. Stat. §§630.354, 49-265 (1977)

Immunity is provided to the Board of Medical Examiners, a medical review panel of the hospital, a medical-legal screening panel, a medical society, or others who initiate or assist in lawful investigations or proceedings concerning discipline of a physician, repeated malpractice, professional incompetence, or unprofessional conduct, if such person or organization acts without malicious intent.

The proceedings and records or organized committees of hospital medical staffs and the medical review committees of medical societies are *nondiscoverable.* No person who attends a meeting of any such committee may be rquired to testify.

N.H. Rev. Stat. Ann. ch. 507, §§8-c, 329:29 (1977)

All proceedings, records, findings, and deliberations of medical review committees of county or state societies are protected from discovery (329:29).

Immunity is extended to members of hospital medical staff and medical society review committees responsible for the evaluation and improvement of the quality of care, for actions taken by such persons in good faith (507:8c).

N.J. Stat. Ann. §§2A:84A-22.8—84A-22.10 (1970)

Immunity is extended to members of hospital and extended care utilization review committees, PSROs, credentials committees, or committees of professional societies for actions taken or recommendations made within the scope of their function as members of such committees, if such actions or recommendations were taken or made without malice and in the reasonable belief after reasonable investigation that such actions or recommendations were warranted.

Information and data exclusively generated by and in the possession of hospital or nursing home utilization review committee shall not be revealed or disclosed in any manner except to the patient's physician, the administrator or the medical executive committee of the hospital or nursing home, government agencies, including intermediaries and carriers, or other hospital service corporation, medical corporation, or patient's insurance company. See *Young v. King,* 344 A.2d 792 (N.Y., 1975); infra.

N.M. Stat. Ann. §12-5-16 (1971)

Immunity is provided to persons providing information to a review organization established by a hospital, a state or local association of health care providers, a nonprofit health care plan, a health maintenance organization, or PSRO, unless such information is false and the person providing it knew or had reason to believe it was false. *Immunity* is also provided to members, employees, or advisers to such review organizations, acting without malice and in the reasonable belief that such action or recommendation is warranted by facts known after reasonable efforts to ascertain them.

All data and information acquired by a review organization in the exercise of its duties and functions shall be *confidential.* No one in attendance at a meeting of such review organizations shall disclose what occurred at that meeting.

N.Y. Educ. Laws §6527.3 (McKinney, 1971)

Immunity is extended to members of utilization review committees and committees responsible for evaluating and improving quality of care if actions are taken without malice and in the reasonable belief that action is warranted by the facts obtained after reasonable efforts.

The proceedings and records of such committees are *nondiscoverable* and persons in attendance at committee meetings are not required to testify unless they are party to an action.

N.C. Gen. Stat. §§131-168—131-169 (1973)

A member of professional review committee is *immune* from liability for damages for any act, statement, or proceeding undertaken within the scope or the functions of the committee, if the member acts without fraud or malice.

N.D. Cent. Code §§23-01-02.1, 31-08-01 (1977)

Immunity is extended to members of hospital and extended care facility utilization review committees as required by state or federal law. The *confidentiality* of information provided to, and the actions and recommendations made by, such committees are protected when members are performing their proper functions, without malice and in the reasonable belief that action is warranted by known facts.

The records and proceedings of any regularly constituted medical review committee of a licensed medical hospital or of a medical society shall be *nondiscoverable* and *inadmissible* as evidence.

Ohio Rev. Code Ann. §§2305.24, 2305.28 (1977)

Immunity is extended to members of hospital and medical society utilization review committees, peer review committees and PSROs of medical societies and members of nonprofit corporations performing peer review and PSRO functions, for actions taken or recommendations made within the scope of the function of such committee, if without malice and in the reasonable belief that such action is warranted by the facts known.

Proceedings and records of such committees are *nondiscoverable* and *inadmissible* as evidence and persons in attendance at meetings of such committees may not testify as to committee proceedings. Material otherwise available from outside sources remain *discoverable.*

Okla. Stat. tit. 63, §1-1709 (1968), tit. 76, §16 (1977)

Immunity is provided to persons serving on a medical committee for actions taken in good faith as a member of the committee.

Records of hospital and professional society committees made in connection with activities involving discipline or professionally competent members are *confidential* and *inadmissible* in evidence.

Pa. Stat. Ann. tit. 62, §§444.2, tit. 63, 425.1-425.4 (1976)

Immunity is extended to members of hospital utilization review, hospital tissue, health insurance review, and other committees engaging in peer review, unless acts or omissions are false, intentionally designed to harm, or grossly negligent. *Immunity* is also extended to persons providing information to such committees.

Records of review organizations are *confidential, nondiscoverable,* and *inadmissible* into evidence, provided they are not otherwise available from original sources. Members of review organizations shall not testify about what occurred during a meeting.

R.I. Gen. Laws §23-16-25 (1976)

Immunity is provided to members of duly appointed peer review committees of state or local professional associations or of licensed hospitals, or the medical staff thereof, or of any medical care foundation or health maintenance organization, for any act or proceeding undertaken or performed within the scope of the functions of such committee, and to any person who communicates information to such committee when the communication does not represent as true any matter not reasonably believed to be true.

The proceedings and records of such peer review committees shall be *nondiscoverable* and *inadmissible* in evidence.

S.C. Code § 40-71-10 (1978), 40-71-20 (1979)

Immunity is provided to any member of a duly appointed committee of a professional society or of a medical staff of a licensed hospital, which operates pursuant to written bylaws approved by the governing board of the hospital, for any act or proceeding undertaken or performed within the scope of the functions of such committee, if such committee member acts without malice, has made a reasonable effort to obtain the facts relating to the matter under consideration, and acts in the belief that the action taken by him is warranted by the facts.

All proceedings of, and all data and information acquired by, such committee shall be *confidential, nondiscoverable,* and *inadmissible* into evidence in any civil action.

S.D. Compiled Laws Ann. § §36-4-25 (1975), 36-4-26.1 (1977)

Immunity is extended to members of duly appointed committees, professional societies or hospital medical staffs, or nonprofit PSRO corporations when performing authorized functions in maintaining professional standards, if acting without malice after making a reasonable effort to ascertain the facts and with reasonable belief that such facts warrant the action.

The proceedings, records, reports, statements, minutes, or other data of any such committee relating to the quality, type, or necessity of care rendered by a member of the hospital medical staff, shall be *nondiscoverable* and *inadmissible* as evidence in any court of law. No person attending any meeting of any such committee shall be required to testify as to what occurred at such meeting.

Tenn. Code Ann. §63-623 (1975)

Immunity is extended to all members of committees of professional societies, hospitals, medical staffs, HMOs for furnishing data or for decisions, opinions, actions, and proceedings, when within the scope of the duties of such committees, if in good faith, without malice and based on facts reasonably known or believed to exist.

The reports, information, data, interviews, etc. of such committees are *confidential* and *nondiscoverable,* unless otherwise available from original sources.

Tex. Rev. Civ. Ann. art, 4447d(3) (1971)

Immunity is extended to members of hospital, extended care facility, and medical organization committees when carrying out authorized functions or providing information to such committees without malice and in the reasonable belief such action or recommendation is warranted by the known facts.

The records and proceedings of such committees are protected from subpoena and *discovery.*

Utah Code Ann. § §26-18-1 (1971), 58-12-25 (1976), 26-25-1 - 26-25-4 (1981)

Immunity is provided to physicians serving upon peer review committees established by hospitals or medical societies to evaluate or review the diagnosis or treatment of, or the performance of medical or hospital services to, patients and to persons furnishing information to such committees, so long as such activities are conducted in good faith and without malice.

Vt. Stat. Ann. tit. 26, § §1441-1443 (1976)

Immunity is extended to members of committees of professional societies or hospitals formed to evaluate health care rendered by providers of health services. Such *immunity* is provided for duties within the scope of the functions of such committees, without malice, and after a reasonable effort to obtain facts.

Proceedings, reports, and records of such committees are *confidential, nondiscoverable,* and *inadmissible* as evidence. No person in attendance before such committees shall be required to testify about such proceedings or findings.

Va. Code § §8.01-581-13 - 8.01-581-17, 54-321.5 - 54-321.7 (1977)

Immunity from civil liability is provided for physicians and dentists for acts, decisions, or omissions arising from performance of duties as a member of hospital or other properly constituted review body, if performed in good faith and without malice.

The proceedings, minutes, records, and reports of any medical staff committee, utilization review committee, or other committee are *privileged,* and are *nondiscoverable,* unless a court orders such *discovery* after a hearing.

Wash. Rev. Code Ann. ch. 4, § §4.24.240 (1976), 4.24.250 (1979), 4.24.260 (1975)

Immunity is extended to physicians, dentists, and pharmacists who are members of hospital and professional society review committees required to evaluate credentials and qualifications of physicians for performance of their duties in the event action is brought by or on behalf of the person being evaluated. *Immunity* is also extended to licensed physicians, dentists, and pharmacists who file charges or present evidence in good faith against a colleague on matters relating to professional competency before a regularly constituted review committee or disciplinary board.

The written records of the review committee or board are *nondiscoverable* in any action except one arising out of the recommendation of the committee.

W. Va. Code tit. 30, § §3C-2, 30-3C-3 (1980)

Immunity is extended to any person who provides information to any review organization, unless the information is unrelated to the duties of such review organization or such information is false and the person providing it knew or had reason to believe that it was false. *Immunity* is also provided to members, agents, or employees of review organizations in the absence of malice or gross negligence.

The proceedings and records of a review organization shall be *confidential* and *privileged* and shall be *nondiscoverable* and *inadmissible* as evidence in any civil action. No person who was in attendance at a meeting of such organization shall be required to testify.

Wisc. Stat. § §146.37, 146.38 (1975)

Immunity is extended to persons who participate in the review or evaluation of health care services, if acting in good faith.

Proceedings and findings of such review bodies are *nondiscoverable* and *inadmissible* as evidence, unless otherwise available from original sources.

Wyo. Stat. § §35-2-601 - 35-2-604 (1971), 35-17-101 - 35-17-103 (1973), 35-17-105 (1981)

Immunity is extended to hospitals, medical staff committees, PSROs and committee advisers and assistants for denial of staff privileges or suspension or expulsion or "any other restrictive or disciplinary actions" unless the action is arbitrary, capricious, and without foundation in fact.

The reports, findings, proceedings, and data of hospital medical staff disciplinary, medical care evaluation, and utilization review committees are "confidential and privileged." Such medical staff committees are to have access to the records, data, and other information relating to the condition and treatment of hospitalized patients for the purpose of supervision discipline, admission, privileges, or control of hospital medical staff members, and for general research designed to reduce mortality, prevent and treat diseases, illnesses and injuries, and to determine if hospital and extended care facilities are being properly utilized.

Model Confidential Information Bill, §7 (Council on Legislation, American Medical Association)

Confidential patient information may be made available to medical peer review committees without patient authorization, but any such data presented to such a committee must remain *confidential.* The proceedings and records of peer review committees are *nondiscoverable* and *inadmissible* into evidence in any action against a physician or other providers of health services. No person present at a meeting of a peer review committee is permitted to testify in such action as to findings, recommendations, evaluations, or opinions of such committees.

Information or documents otherwise available for subpoena are not made exempt merely by presentment at such a meeting and the limits on *discoverability* do not apply in an action to restrict or revoke hospital staff privileges or the license to practice medicine, or in actions where a lack of reasonable belief or malice is alleged.

Edward Field: A Pioneer Practitioner of the Old Navy

HAROLD D. LANGLEY, PH.D.

If the United States Navy ever compiled its equivalent to the *Guiness Book of Records,* there would be a special category for Surgeon's Mate Edward Field of Connecticut. Field was among the first group of doctors who entered the United States Navy following its establishment in 1798 in the midst of an undeclared war with France. He was the first medical man to be injured, and he was a long time pensioner. Aside from these facts, his career is of interest because he was one of a small group of medical personalities who contributed their knowledge and services to the fledgling United States Navy in its hour of need. Most of this first group of Navy doctors served only a few years before returning to civilian life, where they became lost to historical memory. Field was one of the few doctors who served during the early days of the Navy, and whose whole career can be seen in a historical perspective. The study of his life gives us a personalized insight into the perils of naval medicine, and of the problems of a 19th Century professional man trying to function with a disability.

Edward Field was born in Enfield, Connecticut about 1781. His father, Dr. Simeon Field, had practiced medicine near Springfield, Massachusetts before moving to Connecticut. It is likely that the son's interest in the healing arts was nurtured by his father. When he was twelve, Edward began the study of medicine under Dr. Mason Fitch Cogswell of Hartford. At the conclusion of this training, a committee, acting for the Hartford County Medical Society, gave Field his license to practice. The young doctor was a man of medium height and size. He had prominent features, and his face was described as open and manly. He usually wore a mild expression.[1] His quiet and pleasant disposition was soon to be put to severe tests in an unfamiliar world.

About the time that Field completed his medical education, the United States found itself in an undeclared war with France as a result of French seizures of American merchant ships. This, in turn, was an outgrowth of France's dissatisfaction with American neutrality in its war against Great Britain. From France's point of view the alliance of 1778, which helped the United States to win its independence, was still in effect. But when that point was first raised during George Washington's administration, the United States government advanced a different view. It was the position of the Washington administration that the treaty was made with the France of King Louis XVI. That government had been overthrown in the French Revolution and the king had been executed. Napoleon was now the ruler of France, and he was engaged in an effort to bring all of Europe under his control. The United States wanted no part of that. Napoleonic France was further antagonized when the United States signed a commercial treaty with Great Britain in 1794. Relations deteriorated, and during the presidency of John Adams the French began seizing American merchant ships.[2]

To meet this threat, warships being constructed under the auspices of the War Department were rushed to completion. Other ships were purchased and modified for war. A separate Navy Department was established in April, 1798.[3] American warships began to seek out French naval vessels. Some ship to ship clashes resulted in American victories which thrilled the public. Young Edward Field was probably caught up in the excitement of the times along with many of his countrymen. In any case, he applied for a commission as a Surgeon's Mate, the junior rating of the two medical ranks recognized by the Navy. Then as now it was customary to have someone of prominence or local status to write in support of an application. It is known that Dr. Mason Fitch Cogswell of Hartford, Field's teacher, wrote about the young man's qualifications, and that this letter was forwarded by Benjamin Stoddert, the Secretary of the Navy, to President John Adams. Adams promptly signed a commission for Field and notified Stoddert of this fact. In his letter to the Secretary, Adams said: "Knowing, esteeming and loving Dr. Cogswell I could not hesitate a moment to credit his

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recommendation." Field's commission was dated August 6, 1799. When he accepted it on August 19, he became a part of the Navy.[4]

Field was ordered to report to the frigate *Congress,* then under construction at Portsmouth, New Hampshire under the supervision of Captain James Sever. In view of Sever's subsequent career, there is an interesting note about him in President Adams' letter to Secretary Stoddert concerning the commission being sent for Edward Field. Said Adams: "I hope every exertion will be made to get the Congress to sea. I have as good and as high an opinion of Capt. Sever as you have expressed in a late letter and my indignation is not to[o] moderate at certain insinuations which have been thrown out against him."[5] The *Congress* was launched on August 15, and was still being prepared for sea when Field reported later that month.[6]

Early in September Field was sent to Boston to examine a group of recruits gathered by Lieutenant Joseph Saunders. In general, Field was pleased with what he saw and pronounced the men sound in body and in good condition.[7] Shortly after this the young doctor had a slight clash with the Federal bureaucracy when he asked for a reimbursement for his travelling expenses. He was informed that he would receive only his pay, and that travel costs would not be allowed.[8]

Preparations for active service were now well advanced. On November 15, Secretary Stoddert wrote to Captain Sever that he intended to use the *Congress* to provide protection for a group of American merchant vessels bound for Batavia on the island of Java in the Dutch East Indies. Sever was to bring his ship to Newport, Rhode Island for a final outfitting before proceeding with the convoy duty. Similar orders were issued to Captain Edward Preble of the *Essex.*[9]

The convoy sailed from Newport on January 6, 1800. Five days later it encountered a severe rainstorm and heavy seas. During the second day of the storm the *Congress* had its fore and main masts torn off as well as the top of its mizzen mast. In this badly damaged condition, the *Congress* made for the nearest port at Hampton Roads, Virginia. The crew was wet, seasick and tired, but otherwise in good shape. Surgeon Larkin Thorndike and his assistant Edward Field survived the ordeal in reasonably good shape.[10]

Back in port a long overhaul was necessary before the ship could put to sea again. The reports of the damage to the ship disturbed the public, and led to criticisms of Captain Sever's conduct during the storm. To do him justice, and to safeguard his reputation, a court of inquiry was ordered. But the Secretary was emphatic that the investigation should not interfere with Sever's command functions nor delay the repairs on the ship.[11] One of the reasons for both haste and the ability to maintain discipline was the crew. As the Secretary expressed it to Sever: "The Men of the Congress have too long to serve to be discharged, and the expense of keeping them idle in port is not the worst consequence which will accrue—ill humor and insubordination must arise out of such a state of things—"[12] These proved to be prophetic words.

A court of inquiry subsequently acquitted Sever of charges of negligence, but before he came to trial a mutiny took place on the *Congress.* Sever nipped it in the bud by arresting eight men and holding them for trial. This incident again drew the attention of the Secretary of the Navy to the state of affairs on the *Congress.* From a Navy lieutenant on board the Secretary learned that "the whole officers of the Ship are at variance with the Captain—No wonder the men are disorderly."[13]

This allegation of officer discontent would seem to include medical men as well as officers of the line, but there is no way of knowing for sure. It seems likely that they would have tried to stay in the background during these arguments, charges and countercharges about the functions of command. Yet living and working in such a tension filled environment must have created its own share of worry for Surgeon Thorndike and Surgeon's Mate Edward Field. Many years later, after Field's death, it was stated that he was injured during the mutiny. His right wrist and tendons were damaged under circumstances that were not explained.[14] Presumably he received some attention from his colleague, but it is apparent that he had to function for some time with a disability.

It is especially intriguing to speculate on the mental condition of Field's colleague, Surgeon Thorndike. Whether Captain Sever, the mutiny, or other deep seated personal problems were troubling Thorndike cannot be ascertained, but on May 24, 1800 he committed suicide by cutting his throat.[15] This development must have come as an immense shock to young doctor Field. The small area of the ship reserved for the medical activities was bound to make each man well aware of the other's personal habits and idiosyncracies.

Two days after the death of Thorndike, Field was made the acting Surgeon of the *Congress.* He continued to function as such until July 3, when Dr. William Turner assumed the duties of a senior medical officer.[16]

During the interval when Field was in charge, much happened. In an effort to improve the discipline of the ship, most of the crew were transferred to the frigate *Chesapeake.* A new crew was recruited and placed on the ship. The eight men charged with mutiny were brought to trial. Two ring leaders were found guilty and sentenced to be hanged. Commodore Thomas Truxtun, the commander in chief of the fleet, thought that this punishment was too harsh. Instead of death, the two leaders received one hundred lashes with a cat-o-nine tails on the bare back and a discharge from the service. Four other mutineers received seventy-two lashes each. One man was acquitted.[17] A new lieutenant was sent to Sever as his second in command. With these changes it was hoped that the ship would again be well disciplined and able to carry out its mission.[18]

On May 31, 1800 the *Congress* was ordered to relieve the frigate *Constellation* at Cape Francois, off the coast of Santo Domingo. Various delays prevented the prompt execution of this order until sometime in mid-July. While enroute to the West Indies the *Congress* recaptured from a French privateer the American brig *Experiment.* By September 9, the *Congress* was in the harbor of Cape Francois, and relieved the *Constellation* shortly thereafter.[19] As the senior officer on the Santo Domingo station, Sever had the responsibility to see that American commerce in the area was not molested by the French.

From all outward appearances, things seemed to be in fine shape on the *Congress*. One who saw things differently was Captain Alexander Murray of the *Constellation.* At the time Sever relieved him, Murray noticed that there was widespread discontent among the officers and men of the *Congress.* Lieutenant James P. Watson, whom Murray knew to be one of the best young officers in the service, had been placed under arrest "for presuming to give an opinion, . . . " No man with sea experience could agree with Captain Sever's ideas. Murray admitted that Sever "was a well informed gentleman" but he did not have "the practical knowledge of a Seaman and [was] very positive and distant in civilities toward them."[20] What the precise implications of this attitude was for the ship's doctors is not known. They must have felt a certain bond of kinship with their fellow officers, and may well have been victims of the same haughty attitude on the part of the Captain. Certainly if they alone were on friendly terms with the Captain they would have felt uneasy in their dealings with the other officers. In either case, the medical officers must have been fully aware of the tense and uneasy atmosphere on the ship.

Amid all of this, Surgeon William Turner, the ranking medical officer on the *Congress,* left the ship on September 11, for an assignment elsewhere. The Navy Department sent Dr. Samuel R. Marshall from Philadelphia to be the new surgeon, but he did not take over until December 17.[21] In the interval Field functioned as best he could with his injured wrist in the tropical climate.

Eleven days after Surgeon Marshall arrived on board, Captain Sever held a court martial for a lieutenant who had been in confinement since August 7. The charges involved taking in sail without the captain's knowledge and consent, disobedience of orders, as well as improper and insubordinate behaviour. The court found the lieutenant guilty of two of the four charges, but because of his good character and long confinement, no sentence was passed on him. The records of the case were sent to the Navy Department.[22]

The Secretary of the Navy had already heard other reports of the bad state of morale on the *Congress,* but he did not think that he could bring the ship home before the following spring. He allowed the lieutenant who had been recently tried to come home early. Sever was told that if he could spare the men whose time had expired, or could recruit replacements for them in Santo Domingo, he could discharge them. He was told to look over the three other ships on the station to see if he could find enough men willing to serve on the *Congress* for the remainder of her time in the West Indies.[23]

For the rest of the officers and men it was a question of biding one's time until spring. Field may have shared the sentiments of a Marine Corps second lieutenant who wrote to his Commandant in late December 1800 about life in the *Congress:* "you may reasonably Suppose that our situation is Irksome—as respects my Department I have little or nothing to complain of, Captain Sever continues to Treat me with Every mark of Respect, but God only knows how long it may continue for Every day seams [sic] to produce a fresh Evil."[24]

Evil or at least a new controversy touched the medical department when Surgeon Marshall sent a letter to Captain Sever on January 5, 1801 requesting that he consider releasing from arrest an officer who had been in confinement for a few days. Sever chose to regard the letter as improper interference. The incident later became the first in a series of charges the Captain preferred against the Surgeon.[25]

Bad feelings between the Captain and the Surgeon were aggravated two weeks later when Marshall sent a note to Sever protesting against the bread being served to the men. "The damaged state of this article renders it extremely indigestible, and as indigestion has been considered as a certain cause of scurvy, I do not hesitate to say, that if this bread be used for any time, it may prove injurious to the health of the crew."[26] Nothing came of this request.

With two requests rejected in as many weeks, Surgeon Marshall did not feel kindly toward the Captain. So, when Sever invited him to dinner, Marshall declined. When asked about this later at his court martial, Marshall said that he refused because the Captain had frequently shown "indignity and contempt" for the Surgeon in a public manner. Sever had also declared that "he had an aversion to all Gentlemen of the Lancet, . . . "[27] Strong feelings were mounting on both sides.

Further aggravation came in the form of a report that the Surgeon had spoken in an approving way of a mutiny that had taken place on the British frigate *Hermionie* in 1797, in which the crew killed a tyrannical captain. Marshall's account of this incident was that it was a private conversation in which he indicated a strong aversion to the British practice of impressing seamen for service on warships. Since some Americans were in the crew of the *Hermionie*, Marshall could understand any resentment that they felt in being forced to serve against their wishes.[28] Sever saw the incident in terms of an officer advancing dangerous ideas.

Given this frame of reference, it is not surprising that Sever felt that insubordination was growing when in late January 1801, through a lieutenant, he ordered the Surgeon to do something, and Marshall did not comply for eight or ten days. Still, Sever waited until April 3, before presenting the above series of incidents as specific charges against Marshall, and placing him under arrest.[29] Marshall was not a man to take things lying down. He wrote to the Secretary of the Navy and requested that an official inquiry be made into his conduct on the *Congress.*[30]

By this time the undeclared naval war with France had been brought to an end through diplomacy. American warships were being ordered home. The *Congress* made her way to Boston during March in the midst of snow, hail, and very wet and cold weather. Adding to the misery of the passage were the heavy gales. With his injury it must have been difficult for Field to function in such an atmosphere. On April 3, the ship arrived safely in Boston harbor, and Dr. Marshall was placed under arrest. Some of the men were discharged at this time. Field had to remain on board while the ship when it sailed for Washington, D.C., where it was taken out of active service in early June.[31]

For many of the officers the end of the war also marked the end of their careers in the Navy. President Thomas Jefferson came into office in March 1801, and during his administration the size of the naval force was greatly reduced. Some officers were given the option of indicating whether they wanted to go or stay. Many others were simply informed that their services were no longer required. It is not known whether anyone asked Edward Field about his future plans. If they had, he might well have said that he had seen more than enough of Navy life. In less than a year and a half he had been exposed to the stormy seas of the north and to the more placid waters of the tropics. He had observed a mutiny, episodes of tyrannical and irrational conduct on the part of his Captain, and months of tension on the ship. He had experienced the shock of the suicide of one medical colleague and the arrest of another. Field may well have felt that enough was enough. In the end, it was the state of his injured arm that decided things.

Surgeon George Davis, one of the examining physicians, reported that Field had suffered "a dislocation of the bones of the forearm together with a Rupture of the principle [sic] tendons and which wholly deprives him of his right hand, [and] incapacitates him from pursuing his Profession."[32] Davis discussed the case with acting Secretary of the Navy, who ordered Field's name to be placed on the list of those who were to receive disability pensions. The acting Secretary subsequently wrote to Field to notify him that he would receive a pension of $15 a month starting on August 1, 1801. The money would be paid twice a year through the Commissioner of Loans of the State of Connecticut. Since the pension would be paid only as long as the disability continued, it would be necessary for Field to go before a justice of the peace twice a year and swear that he was still incapacitated.[33] Edward Field thus became the first medical officer of the United States Navy to receive a pension for injuries received in the line of duty. He would remain the only doctor on the list until 1812, when another surgeon's mate joined him.

Field left the *Congress* on June 14, and a few days later was out of the Navy and on his way back to Connecticut. Soon after he was discharged he applied to the government for back pay. Field argued that he had served as a Surgeon on the *Congress* after the suicide of Dr. Thorndike, and until a replacement arrived. He had also acted as the Surgeon at other intervals when his superiors were being transferred or otherwise not available for duty. All in all, Field calculated that he had acted as a Surgeon for a total of five months and twenty-seven days while drawing the pay of a Surgeon's Mate. He asked for additional compensation for such services. The Navy Department looked into the matter and found that Field's claim was justified. He was paid the sum of $118 to settle the issue.[34]

In the course of preparing his case, Field wrote to Captain Sever and asked him for a letter confirming that the doctor had functioned as he claimed. Sever did not reply, and six weeks later Field wrote him again. The Captain supposedly gave his support to Field's claims.[35] This seems to suggest that there was no animosity between Field and Sever. After that, their paths diverged. Field had already begun to make a new life for himself in Connecticut.

As a twenty year old civilian, Field decided to settle in Waterbury, then a sparsely populated town, where he resumed the practice of medicine. He concluded that he could not limit himself to the people in the town, but would also treat those who lived in the rough and mountainous regions around Waterbury. His journeys to the countryside often required great exertions, but he did not balk at hardships.[36]

At the age of twenty-five Field married Sarah Baldwin, the daughter of Dr. Baldwin, a senior physician in Waterbury. She bore him a son. In 1808, a little more than a year after her marriage, she died. For his second wife Field chose Ester Baldwin, a younger sister of his former mate. In the course of their long married life, Ester bore him two sons and three daughters.[37]

Field was a great believer in education, order and morality. These values were passed on to his children. His beliefs led him to join the Congregational Church in

Waterbury, where he became known as a consistent and practical Christian. One of Field's sons learned medicine under his tutelage and went on to practice in Michigan.[38]

In his professional life, Field acquired a reputation for being thoughtful, cautious and discriminating. He was very careful in diagnosis and in his use of medicines. For many years he was a member of the Connecticut Medical Society, and he maintained an interest in its work. The injury to his right arm made him restrict his practice chiefly to medicine. He avoided surgical cases whenever possible. Although an affable and public spirited citizen, Field did not get involved in political matters and he sought no notoriety. He was content to be known as a good physician and an honest man.[39]

While life moved along at a slow tempo in Waterbury, the United States fought a war with Great Britain in 1812-1815. After the war the Congress looked into the matter of military and naval pensions. In March 1819 a law was passed regulating the payments made to invalid pensioners. It was intended to deal with problems that had arisen in regard to Army pensioners, but it was subsequently interpreted as applying to Navy people as well. In conformity with the provisions of this law, a group of surgeons examined Field and reported that his disability had diminished and his pension should be cut by one half. Field protested this reduction in his benefits. A new physical examination was ordered to determine the state of his health. Two doctors reported that Field labored "under a stiffness and weakness of the tendons and joint of the right wrist . . . " They recommended that Field receive two-thirds of his original pension instead of one half. This suggestion was accepted in Washington and Field was awarded the sum of $10 a month.[40]

For several years Field continued to receive his pension, and periodically he submitted himself to the doctors for a physical examination. In 1831 a statement by an examining surgeon was misinterpreted in Washington, and Field's pension was cut to $6.63 ⅔rds. per month. Field complained about this action. His protest was heard by Samuel H. Parsons, of the Connecticut pension office, who wrote to the Secretary of the Navy and reviewed Field's case from the beginning. Parsons asked that the Navy Department read the whole pension file on Field for a better perspective on his situation. The Secretary ordered an investigation. As a result, Field was again awarded a pension of $10 a month. An act of Congress of July 14, 1832 dispensed with the biennial renewal of pension certificates.[41] Once again a difficult situation was happily resolved.

With the passage of years, Waterbury grew in population and size. Field had a large number of patients in the city, and he also took cases in adjoining towns. A medical colleague later described Field's practice as "large, laborious and unremunerative . . . " He added that Field cheerfully bore his share of the burdens of society, "ever making additions to the large stock of respect and esteem with which he was favored." It seems likely that Field's religious beliefs and his sense of professional dedication blended easily together.[42]

If the spirit was still willing, the flesh was growing weaker. By 1836, when he was in his mid-fifties, Field's health became impaired and he was obliged to curtail his practice. He was probably worried about money, and perhaps by family cares as well. Whatever the situation was, it eroded his cheerful, optomistic outlook. He became depressed. In an unusual fit of melancholy, which a medical colleague regarded as virtual insanity, Field committed suicide on November 17, 1840. He was mourned by his family and by a large circle of friends and acquaintances.[43]

So ended the career of Edward Field, a Surgeon's Mate of the early U.S. Navy, and that service's first medical pensioner. Field's naval experiences tell us a great deal about life on the *Congress,* and of the importance of a competent and fair captain in making a ship into a fighting unit. From the words of his shipmates we are able to form a good estimate of the circumstances under which some of the early Navy men had to function. But above and beyond the specifics of service life, we have the poignant story of a young man who sustained what we would consider a minor injury. The improper treatment of that injury crippled him for life. In the records that pertain to his life, the service aspect was separate and distinct from the civilian. The civilian records made only a brief reference to the naval side. By bringing them together we get the complete story of a pioneer practitioner. A forgotten man is now remembered.

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American Medical Association vs. Federal Trade Commission

> "The Principles of Medical Ethics proscribe the solicitation of patients or patronage. Solicitation, as used in the Principles, means the attempt to obtain patients or patronage by persuasion or influence. However, the public is entitled to know the names of physicians, the type of practices, the location of offices, office hours, and the like. The doctor may ethically furnish this information through the accepted local media of communication . . . Telephone listings, office signs, professional cards, dignified announcements, all are acceptable media of making factual information available to the public."

This policy statement was adopted by the American Medical Association House of Delegates in 1962—13 years before the Federal Trade Commission filed a complaint against the AMA, the Connecticut State Medical Society and the New Haven County Medical Society, alleging that the AMA Principles of Medical Ethics restricted physician advertising and solicitation and interfered with physicians entering into contractual relationships with HMOs, prepaid group plans and hospitals. The FTC charged the medical associations with price fixing and restraining competition, in violation of the FTC Act.

Subsequent statements by the AMA Judicial Council reaffirmed the earlier position on advertising and solicitation, clearly defining solicitation as "false or misleading" advertising. The Council also has stated that the AMA Principles of Medical Ethics "do not proscribe advertising."

Yet, despite these clarifications of policy, the FTC has engaged the AMA in a seven-year legal battle, which will end on June 28, 1982, when the order against the AMA ethical guidelines becomes final.

Jurisdiction the Real Issue

In filing the action against the AMA in December 1975, the FTC set out to establish jurisdiction over the medical profession and to solve what it perceived to be one of the nation's most significant problems—the high cost of medical care. It was the first time the agency had attacked the ethical principles of a professional association.

While slowing rising health care costs is a goal we all share, opinions vary on how to accomplish it. The FTC feels that if every physician advertises the charges for his or her services, patients will "comparison shop" for medical care and prices will come down. The medical community knows that physicians compete vigorously, but on the basis of reputation, not through sophisticated marketing techniques such as those used to sell laundry detergents, breakfast cereals or used cars.

Before issuing its complaint, the FTC did not analyze the competitive effects of physician advertising and ignored the impact of its action on the important activities undertaken by medical societies to protect public interests.

Advertising and contract practices were not the issue then, even though they were cited as such in the original complaint. The real goal of the FTC action was to obtain a clear statement of jurisdiction over nonprofit, professional associations from the U.S. Supreme Court.

The AMA does not advocate exempting the learned professions from antitrust laws. Physicians, lawyers, engineers and other professionals are subject to the Sherman Antitrust Act, which is rightfully enforced by the U.S. Justice Department and certain state agencies. The Association maintains that medicine and the other learned professions are regulated appropriately at the state level and they should not be subjected to additional and unnecessary federal regulation. Now, however, the Federal Trade Commission seeks to expand its own jurisdictional powers to cover the state-regulated, learned professions.

Chronology of Case

When the full Federal Trade Commission issued its Order and Opinion in the fall of 1979, it upheld the earlier findings of an FTC administrative law judge. The Order prohibited the AMA from interfering in physicians' contractual relationships with HMOs and from enforcing its ethical guidelines against solicitation of patients.

The AMA and the Connecticut respondents appealed the decision to the U.S. Court of Appeals for

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the Second Circuit, challenging FTC jurisdiction over not-for-profit professional associations. In its appeal, the AMA also charged prejudgment of the case by Chairman Michael Pertschuk; attacked the Commission's finding of violation, since it was based exclusively on outdated statements that were being revised voluntarily prior to issuance of the complaint; and documented that the AMA was not engaged in unfair methods of competition, but only in permissible self-regulation of deceptive practices.

Oral argument was heard in May, 1980. In October, two of the three judges on the Second Circuit Court voted to modify and uphold the FTC order against the AMA. The dissenting opinion would have denied enforcement of the FTC order, however, saying that "it merely requires the Association to do what it is doing anyway and prohibits it from doing what it is not doing." It accused the FTC of "pressing for its pound of flesh," and said the order "deals with practices that are now ancient history rather than with the facts as they now exist."

The AMA filed for a rehearing before the full court, but the petition was denied.

In April 1981, the AMA filed a petition for certiorari with the U.S. Supreme Court, which was granted, with Justice Blackmun abstaining.

Oral arguments were heard in January of this year, and on March 23, 1982, a split vote (4-4) by the Justices resulted in upholding the FTC strictures against the AMA.

The U.S. Supreme Court denied a motion for rehearing.

The FTC served its final order against the AMA on May 28, 1982, and, unless modified by the FTC in the interim, the order becomes final on June 28, 1982. The AMA currently is seeking modification by the Commission.

FTC Beating a Dead Horse

"The AMA has long abandoned any ethical restrictions on physicians' truthful advertising and contractual relationships with hospitals and health maintenance organizations," says James H. Sammons, M.D. executive vice president of the AMA. In other words, "the FTC is beating a dead horse," he says. And, despite FTC allegations to the contrary, "no changes will be required in the AMA Principles of Medical Ethics, Judicial Council Opinions or the Association's Constitution and Bylaws."

Congress to Decide Issue

Because of the Supreme Court's failure to resolve the jurisdictional issue, the AMA has urged Congress to make the decision. The High Court's deadlock is "a clear signal" that Congress is the proper forum for resolution of the debate on the FTC's jurisdiction over state-regulated professions, the AMA told Congressional committees in recent testimony.

In fact, Congress rebuffed a 1977 request by the FTC to change its statutory authority and give it the jurisdiction it sought.

Two bills now before Congress have the power to define and limit the FTC's authority, once and for all:

—S. 2499 would reauthorize the Federal Trade Commission and, among other substantive changes, would amend the FTC Act to specify that there is no FTC jurisdiction over the professions, to prohibit FTC pre-emption of state law, and to make major procedural reforms in FTC proceedings. The amendment to S. 2499 was offered by Senator Ted Stevens (R-AK) and encompasses the provisions relating to professionals from S. 1984, a bill introduced and actively supported in the Senate by Senators McClure (R-ID) and Melcher (D-MT) and a number of other sponsors. The Stevens amendment provides clearly that the Federal Trade Commission does not have jurisdiction over the professions and cannot pre-empt state laws relating to the professions.

—H.R. 3722 (Luken-Lee Bill) would place a moratorium on FTC activities regarding state-regulated professions and professional associations.

In voting to accept the amendment, Senate committee members supported the AMA position that Congress never intended the FTC to have jurisdiction over the learned professions. According to Stevens, if the FTC continues on its present course, "in the end, you will have federal standardization of the profession."

The Senate committee's report on S. 2499 says in part, "The exemptions for professionals from Commission jurisdiction . . . reflect the Committee's belief that regulation of professionals by the Commission is unnecessary and inappropriate in light of other extensive State and Federal regulatory and oversight authority. First, the Commission's antitrust enforcement authority largely duplicates U.S. Department of Justice, State and private enforcement authority. The Department of Justice has criminal as well as civil authority to enforce the Federal antitrust laws, and State attorneys general and private parties injured by antitrust violations may also sue professionals and recover treble damages. In addition, in many States, State antitrust laws cover professionals.

"Second, the Commission's consumer protection enforcement authority duplicates the States' well-developed, traditional licensure and regulatory schemes for professionals. Indeed, some of the Commission's proposed consumer protection rules, such as the two eyeglasses rules currently under development, are a direct repudiation of the States' regulatory role, in that these rulemakings contemplate pre-emption of State laws designed to govern professional practice. The Committee believes that State governments are the more appropriate entities to regulate the practice of professionals and that Commission intervention through its consumer protection jurisdiction is unwise and unwarranted."

Where do we stand now?

In its long legal battle with the AMA, the FTC "accomplished absolutely nothing" except to jeopardize the status of medical ethics, according to Dr. Sammons. And the situation has caused state and local medical societies to halt many socially desirable activities for fear of becoming embroiled in protracted and financially debilitating administrative proceedings.

Local medical societies are in a quandary as to how to protect the public interest when they receive complaints from patients about excessive charges by physicians. For to recommend what it believes is a reasonable charge, the medical society is fearful of a "price fixing" complaint by the FTC. The consumer loses when the ability to self-regulate is taken away from the profession, for it is in the public interest that the profession seeks to regulate, and eliminate, unfair and deceptive practices.

AMA vs. FTC
Chronology of Events

Dec. 19, 1975—FTC filed complaint naming the AMA, Connecticut State Medical Society and New Haven County Medical Society, alleging that the AMA Principles of Medical Ethics restricted physician advertising and solicitation and interfered with physicians' entering into contractual relationships with HMOs group prepaid plans and hospitals, thereby restraining competition and resulting in price fixing in violation of the FTC Act.

Sept. 7, 1977—Trial began before FTC administrative law judge.

May 1978—Trial ended.

Nov. 13, 1978—Administrative law judge issued 312-page Initial Decision and Recommended Order (which would have prohibited AMA from making any statement on physician advertising or solicitation for two years.)

Jan. 1979—AMA and Connecticut respondents filed an appeal to full FTC.

April 25, 1979—Oral arguments on the appeal were heard by four members (one seat was vacant.)

Oct. 12, 1979—Commission issued its Order and Opinion, basically upholding the earlier decision of administrative law judge.

March 3, 1980—AMA and Connecticut respondents filed briefs in the appeal to the U.S. Court of Appeals for the Second Circuit, challenging the jurisdiction of the FTC over not-for-profit, professional associations.

May 2, 1980—Oral argument was heard.

Aug. 26, 1980—Court of Appeals sent a letter asking each party to file a memorandum explaining how the AMA's adoption of a revised set of Principles of Medical Ethics on July 22, 1980, affected the issues on appeal. AMA contended that issues were now moot. FTC claimed the AMA revision meant very little since the Judicial Council Opinions and Reports had not been withdrawn.

Oct. 7, 1980—Two of the three judges on the Second Circuit Court modified and upheld the FTC Order against the AMA.

Oct. 21, 1980—AMA filed a petition asking for a rehearing before full nine-member bench of the U.S. Court of Appeals for Second Circuit.

Nov. 25, 1980—Circuit Court denied petition for rehearing.

April 8, 1981—Petition for certiorari filed with U.S. Supreme Court.

June 22, 1981—Petition granted by Supreme Court.

Jan. 11, 1982—Oral argument heard.

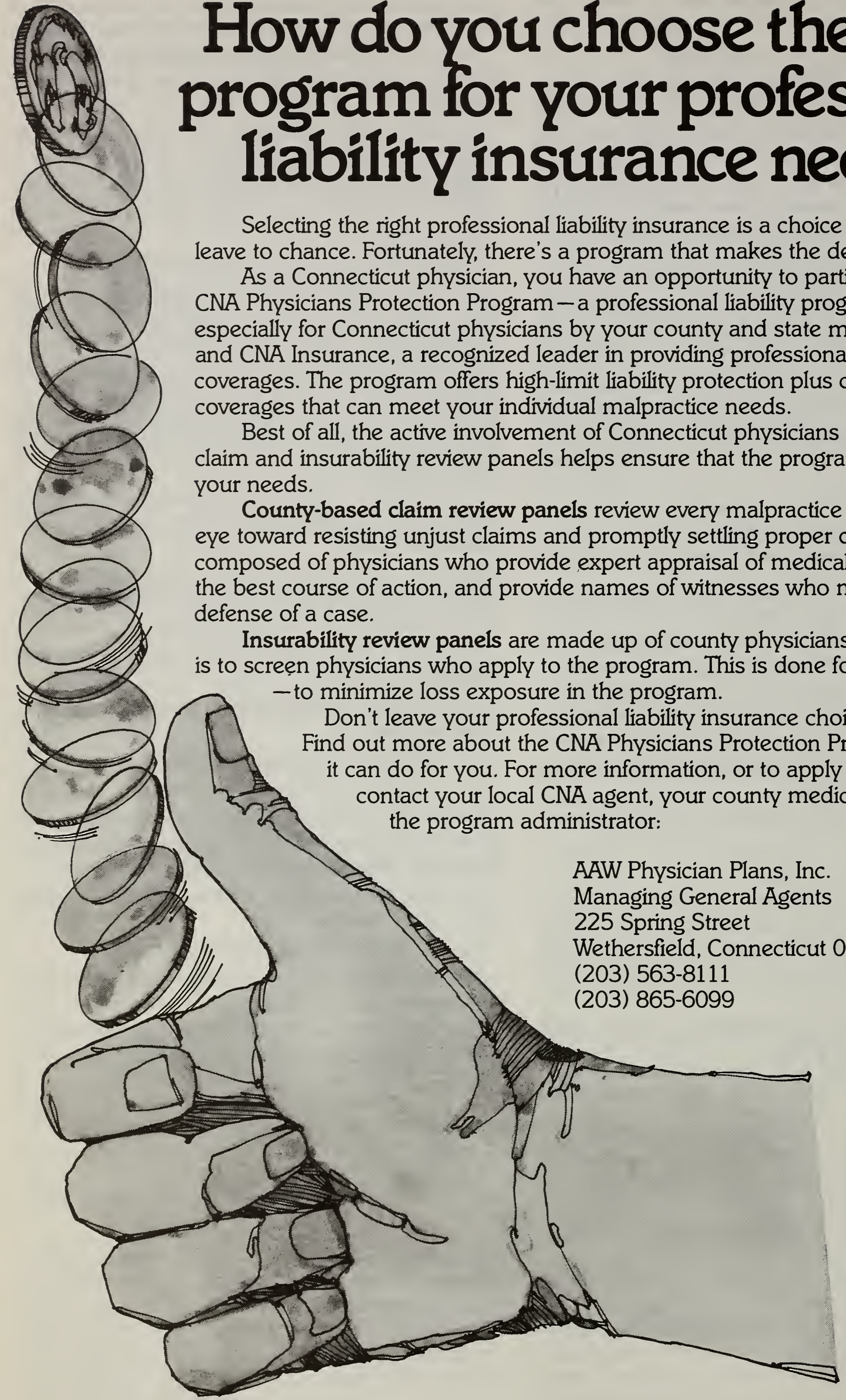
March 23, 1982—Split vote by Supreme Court affirmed the decision of the U.S. Court of Appeals for the Second Circuit, thereby upholding FTC order.

April 23, 1982—AMA filed motion for rehearing before U.S. Supreme Court.

May 3, 1982—Motion for rehearing denied.

May 28, 1982—FTC served final order as modified by Circuit Court on AMA.

June 28, 1982—FTC order becomes final unless modified before that date by the Commission.



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Month in Washington

More than 150 physicians from across the nation, including the presidents of 36 state medical societies have met in Washington, D.C., to map a final assault to convince Congress the Federal Trade Commission threatens the quality of medical care.

The state delegations and top officers of the American Medical Association called on scores of key Senators and Congressmen as voting time appeared to grow close on proposals to strip the FTC of jurisdiction over state-regulated professions and to impose a moratorium on FTC actions against professionals and their associations.

"We expect to win," declared James Sammons, M.D., Executive Vice President of the AMA. Dr. Sammons told a news conference that 220 members of the House, a majority, have endorsed the moratorium bill. And he noted that the Senate Commerce Committee approved 10-5 legislation to remove the FTC's powers over professionals. (Subsequent to the news conference, the Senate Appropriations Committee also approved a one-year suspension of the FTC's authority over physicians and other professionals by a 14 to 5 vote.)

The "chilling effects" of continued FTC jurisdiction over physicians was described to reporters by Joseph Boyle, M.D., Chairman of the AMA Board of Trustees. Peer review activities, hospital review committees, and specialty society standards could be jeopardized by FTC actions, Dr. Boyle said.

"The whole structure of medical society attempts to protect patients from incompetent physicians, from fraud and abuse, will be called into question and could collapse," Dr. Boyle warned.

John Coury, Jr., M.D., an AMA Board member, told the news reporters that local medical societies are afraid to warn the public against "certain entrepreneurs" who are hurting patients because the FTC might take action against the societies. "The FTC permits quacks to carry out false and misleading advertising in their practice, and permits the crumbling of the excellent peer review system in this country," said Dr. Coury.

If Congress allows the FTC to continue its "harassment," then Congress "must accept the responsibility for destroying peer review and the quality of medical care in this nation," the physician said.

The threat the FTC poses to the health care coalition movement was outlined at the news conference by Dennis O'Leary, M.D., acting medical director of the George Washington University Hospital and President-Elect of the Medical Society of the District of Columbia.

Dr. O'Leary said the agency appears to be "antithetical to the whole cost containment effort" embodied by the business-professional-public coalitions. "The FTC is all over us, like a rag," he said, noting that the agency's only go-ahead so far to such coalitions has been permission to publish data.

On the eve of the Congressional visits, Dr. Sammons appeared on the Public Broadcasting TV show MacNeil-Lehrer Report to debate James Miller, FTC Chairman.

Dr. Sammons said the FTC's ruling against the AMA in the case involving ethical codes on advertising "has made it virtually impossible for the profession to root out fraud and deception."

The AMA official pointed out that the Justice Department traditionally has had jurisdiction over the professions and that not until seven years ago did the FTC take action against professionals. "There has not been one scintilla of evidence that Congress intended for the FTC to enter this area."

Miller, a Reagan Administration appointment, told the PBS network audience the anti-FTC legislation would provide a privileged class under antitrust laws and would make the professions immune from laws against fraud and deception. He said many health and business groups as well as the Justice Department and most state attorneys general have opposed the legislation restricting the FTC's scope.

Dr. Sammons said it is "totally inaccurate" to suggest that the AMA is seeking to exempt physicians from the antitrust laws. He noted the Justice Department's long history of actions involving professionals in antitrust cases, including a historic case against the AMA in the early 1940's.

The FTC's recent presence in the field "is clearly expensive and duplicative," he said, "an intrusion into an arena that is the province of the Justice Department."

The agency has been carrying out "fishing expeditions" for records and documents that have cost medical organizations "incredible sums of money" to comply with, according to the AMA official. Dr. Sammons said the AMA spent seven years and $5 million in fighting the FTC's "needless" complaint against the AMA's ethical guides on advertising.

Some provisions of the FTC's ruling against the AMA would prevent the AMA and medical societies from being patients' advocates in fee disputes and hamper physicians ability to police misleading advertising, he said.

The FTC isn't equipped to deal with professional ethical problems and insists on treating medical practices as if they were simple commerce, Dr. Sammons said.

"We're not selling widgets or electronic devices."

Prepared by the Washington, D.C.
Office of the American Medical Association

"There are strong implications of disruption of quality of care involved in the FTC's actions against the AMA," said Dr. Sammons.

At the news conference, Dr. Boyle told reporters the public needs to understand the repressive nature of FTC's authority over the professions. He cited the recent case of the Maine Medical Association which received a sudden order from the Boston office of the FTC to turn over within two weeks all documents relating to physician reimbursement dating back five years. A request for a two-week extension to comply with the sweeping request was summarily refused. "That's what is going on today," Dr. Boyle said.

Since 1977, there have been 17 instances of FTC actions against medical societies and in only one—the case involving the AMA—has the case finally gone to court. In all others the FTC obtained consent decrees or dropped the actions.

Dr. Boyle noted that the California Medical Association, faced with an FTC action on relative value studies, spent $1 million on legal fees before deciding it could not afford to fight the case further and entered into a consent decree settlement. By contrast, in a similar case brought by the Justice Department against the Anesthesia Society, the case went to court and was won by the society at a total expense of less than one-third that borne by the California Association.

In the days following the press conference AMA President William Rial, M.D., in a letter to the *New York Times,* said the American people "do not want a federal bureaucracy interfering with the cost and quality of their personal medical care."

Dr. Rial noted that the AMA isn't seeking complete exemption from the antitrust laws for physicians, since the Justice Department would continue to oversee the antitrust statutes. "To add the FTC as a regulator and one more layer of government is not in the best interest of either physicians or patients," he said.

"We believe it is in the public interest . . . to leave regulation of professionals under courts of law and not to a duplicative and costly bureaucracy," Dr. Rial wrote.

Writing in the new USA TODAY newspaper, AMA Board Chairman Boyle said medical care in this country is the best in the world.

"This was achieved long before the FTC became involved; it has been endangered more than helped by FTC regulation," said Dr. Boyle.

The AMA officer said the FTC has paralyzed the staffs of medical societies with subpenas and requests for documents. State societies have been warned of antitrust implications in deciding physicians' qualifications, access to facilities, contracts with providers and disciplinary action against dishonest or incompetent physicians.

"Cost containment has been seen by the FTC as collusive price fixing," wrote Dr. Boyle.

In a letter to all Senators and Representatives, the AMA said, "the FTC's intrusion into the regulation of professions forces the professions—those with expertise—to abandon desirable self-regulation because of the fear of an action by an over-zealous agency and the fear of financially debilitating litigation."

The lawmakers were told that Congress never granted the FTC authority to pursue the professions and that in 1977 Congress rejected an amendment that would have given FTC that authority.

* * * *

An extraordinary "lame duck" session of Congress has been requested by President Reagan to force the lawmakers to approve separate appropriations bills to keep the government operating this fiscal year.

The alternate likely would have been passage of a continuing resolution, a combined package which would carry more spending than Reagan wants and which would have been difficult to veto.

From the standpoint of health legislation, the President's action could mean less money for some health programs at the Health and Human Services Department. The extra session also brightened chances for passage of health measures still pending before Congress.

These include the controversial reauthorization of the Federal Trade Commission and the efforts of the professions to remove the agency's jurisdiction over them.

The Health Planning program is up for reauthorization. The issue to be settled is whether the program is killed outright or allowed to continue on a severely-reduced basis.

The authorization for the National Institutes of Health is another bill waiting for final action. The key debate here is on proposals to establish a new institute on arthritis.

Important drug bills are nearing final action. One would extend for seven years the patent-life of prescription drugs and another offers financial aid for production of orphan drugs.

Tougher labeling for cigarette packages and tougher and more uniform penalties for drunk driving are other health-related matters still before Congress.

In his message to Congress, Reagan said he feels strongly that "attempting to run the federal government without a proper budget—with a series of temporary continuing resolutions—and the associated overall budgetary uncertainty—amounts to both bad economics and bad management."

The President's Page

First of All, Be Kind to Each Other

Busy doctor to secretary: "Louise, get Dr. Weltschmerz on the phone. I'd like to discuss Mrs. Sickly's case with him and perhaps get him to see her." Two minutes later Louise says "I have the office on the wire but they won't put the doctor on until you are on at this end."

B.D. "Another one of those. O.K. let me have the phone. Hello? This is the doctor. Is Dr. Weltschmerz there."

"Oh, yes, just a moment."

At this point B.D. is assaulted with the most dissonant, repetitive, big beat sound of rock and roll. He shifts the receiver from one ear to the other while trying to answer questions from either his secretary or nurse. He is particularly annoyed if Ma Bell is charging a toll during all this delay. Just when he's ready to hang up a sweet secretary on the other end asks "Who is the patient? Can I get a chart out while you're waiting?"

B.D. "No, you can't. It's about a new patient but don't bother." As he is about to cradle the phone a friendly voice calls out. "Hi Ben, what's happening?"

B.D. "Not much. I'm just having a slow burn about your telephone procedure." Dr. W.S. "Sorry about that, Ben, old buddy, but you know how hectic office hours can be."

We all know it so why can't we at least be kind and considerate to each other? Isn't it a little childish to argue who is the first one to get on the phone? The fact that one practitioner seeks the opinion of another is, in my opinion, the greatest compliment one colleague can pay to another. It should be accepted with gratitude and handled with great courtesy. To have a secretary put off the inquiring physician or offer an appointment two months in the future when the doctor wants immediate answers is sheer nonsense.

The way the office phone is answered is the opening public relations gambit. No amount of spending for advertisement will substitute for the impression telephone techniques make on the public we serve.

The AMA has spent millions of dollars on public relations campaigns to elevate the public esteem of the medical profession. The results are mainly negative. Your state society has embarked on modest campaigns from time to time only to find them extremely expensive and non-productive. A short tempered secretary or doctor who shows lack of consideration to a referring physician, a patient, or his family does untold damage to the public's esteem of the profession as a whole. The damage cannot be undone by expensive public relations techniques.

Every doctor's office is the patient's first contact with our profession. We must increase our attempts to make it a pleasant, informative one. We can at least start out with the courtesy we show each other.

Gioacchino S. Parrella, M.D.
President

Reflections from the Dean's Office

No More than Words

ROBERT U. MASSEY, M.D.

Last month, just before the leaves turned, the Hartford *Courant* published an article with the headline, "It's not poetic, only scientific." In one of his paragraphs, the author wrote:

> "To poets, songwriters—and anyone else who doesn't think about it scientifically—leaves change colors in the fall. But scientists insist that most leaves are always red or orange or yellow."

The problem is that scientists sometimes do say things like that: they talk as though scientific explanation and reality—whatever that should turn out to be—were equivalent and that our perceptions were nothing more than images or shadows, finally indistinguishable from hallucinations. Even though a maple leaf in June looks quite green to me, a chemist who knows about anthocyanin may say, if he likes, that it is *really* red, as though his knowledge were somehow more real than my perception.

In more thoughtful moments, we realize that everything which we know or perceive is in our heads to begin with, or has gotten in by observation; that when a brain dies, for all we know, a universe disappears. "The world that I regard is myself."[1] This is not meant to raise old issues about the objectivity of the external world; that is a matter for philosophers and epistemologists. It is difficult to deny, though, that we mix up objectivity and subjectivity in remarkable ways even when we are being most scientific.

That a green leaf has lurking behind its greenness something which, if we could see it, we should call red does not mean that it is really not green. An artist would probably use green pigment to paint it, unless he meant to give it some other meaning or to show it in a sunset or a storm. A poet would not need to explain the steroid nucleus to write about love. There are levels of explanation, no one of which will ever quite describe reality.

As physicians, we must at times think of our patients as no more than biological entities, using the language of science, and excluding all other terms. Later we recall that they are mothers, fathers, colleagues, friends, husbands, and wives; none of them is a "mere mortal." In fact, our scientific explanations are often not even very scientific, based as they are upon selective observations and *a priori* notions, which others might impolitely call ignorance and prejudice.

We are not the only ones guilty of the "no more than" sin. To the economist human beings may be no more than consumers or producers; to the politician, no more than votes; and to the geneticist, no more than carriers of DNA. Even some clergymen refer to their parishioners as giving units. I have read somewhere that the human body is made up of 97 cents worth of simple chemicals.

There is a smugness, if not a downright arrogance, about the claim to special knowledge and the language that goes with it; that smugness would only be silly if it did not sometimes diminish the user's humanity and wound everyone else. Misuse of the language of medicine is part of the dehumanizing that our students believe takes place in medical school. Words and symbols come even closer to our notions of reality than explanations which claim to describe it; they stand for the only world and the only reality we know. That is why they have so much power over what we do and therefore what we become. That is why we should not neglect our poets and myth-makers.

If we are no more than care providers in the health care industry, and our patients no more than consumers, and we use these words often enough, profitability will become the goal and profit the object of all that we do. If our patients are no more than packages of pathophysiology, it is easy to turn them from living souls into things. Our words will have made a new and unenlightening reality for us.

> "Let me be sick myself, if sometimes the malady of my patient be not a disease unto me; I desire rather to cure his infirmities than my own necessities: where I do him no good, methinks it is scarce honest gain—."[2]

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1. Browne, Sir Thomas: Religio Medici, Part II, Section XI.
2. Ibid, Part II, Section IX.

ROBERT U. MASSEY, M.D., Professor and Dean, School of Medicine, University of Connecticut Health Center, Farmington.

Abortion 1982: The Supreme Court Once Again

JOSEPH M. HEALEY, J.D.

Abortion remains a major medico-legal issue which will not go away. During the past few months, we have witnessed: Senator Helms's attempts to add anti-abortion legislation to a Senate financing bill; the alleged kidnapping of the director of an Illinois abortion clinic by a radical anti-abortion group; controversy in Pennsylvania over the performance of an abortion on a comatose, single, 23 year old woman at the request of her mother; and controversy in Connecticut over the performance of an abortion contested by the alleged biological father. Clearly, the significance of the abortion issue in American society has not decreased.

This fact becomes even clearer when we recognize that five major abortion cases are scheduled for review by the United States Supreme Court during its 1982-83 term. Taken together, the five abortion cases challenge several of the key conclusions of the Court's review of the abortion question. Though many issues are raised, the primary focus of the cases is the state's power to regulate the abortion decision during the first and second trimester of the pregnancy. Two of the cases[1] involve ordinances passed by the City of Akron regulating access to abortion in areas such as consent and notification requirements and the location of abortions after the first trimester. Two of the cases[2] involve a Missouri statute also dealing with the requirement that abortions after the first trimester be performed in a hospital. The final case[3] involves a Virginia criminal prosecution of a physician accused of violating the state's requirement of in-hospital performance of a second trimester abortion. In the case of *Roe v. Wade,* the Court had established the "trimester trilogy" governing state regulation of the abortion procedure. For the stage of the pregnancy prior to the end of the first trimester, the Court concluded that the abortion decision and its effectuation must be left to the medical judgment of the pregnant women's attending physician. For the stage of the pregnancy subsequent to the end of the first trimester, the state may promote its interest in the health of the mother by regulating the abortion procedure in ways reasonably related to maternal health. For the stage of the pregnancy subsequent to viability, the state may promote its interest in the potentiality of human life by regulating, even prohibiting abortion except where it is necessary to preserve the life or health of the mother. The five cases challenge the role of the Court in determining the scope of appropriate state regulation at various stages of the pregnancy.

The past decade has not been kind to the Court. In the ten years since *Roe v. Wade* and *Doe v. Bolton,* the original abortion decisions, the Court has suffered a loss of prestige. For some, this loss is a result of the absence of clear leadership by the Chief Justice. For others, this loss represents an appropriate return of balance after the active years of the Warren Court. For still others, the Court has become a symbol of the larger society, short on continuity, tradition and wisdom while long on intemperate personalities, arrogance and insensitivity. Whatever its cause, the Supreme Court as an institution finds itself at one of those many critical junctures with enormous implications for the distribution of power among the three branches of our government. The abortion cases reflect the conflict over the appropriate roles of the legislative and judicial branches of government in a complex area of public policy. These cases may prove to be a major source of clarification of the role of the courts and the role of the legislature.

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   Akron Center for Reproductive Health Inc v City of Akron (Docket No 81-1172).
2. Planned Parenthood Association of Kansas City Mo Inc v Ashcroft (Docket No 81-1255).
   Ashcroft v Planned Parenthood Association of Kansas City Mo Inc (Docket No 81-1623).
3. Simopoulos v Virginia (Docket No 81-185).

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FINE NEEDLE ASPIRATION OF BREAST MASSES

To the Editor: The popularity of using needles of various sizes and designs in the diagnosis of breast masses has fluctuated over the past half century much like the stock market. Evaluation and discussion of this adjunct to our armamentarium are periodically in order and valuable. Such a contribution has been made by Drs. Robert W. Painter and Richard D. Otis in *Connecticut Medicine*, August 1982, (Vol. 46, No. 8). Emphasis, however, should be placed on certain findings, and some conclusions drawn.

I. Where both the physical findings and the needle aspiration suggested that the solid mass was benign, no open surgery was done. The authors noted that follow-up in this group was only six months to two years, implying correctly that follow-up should be protracted further.

II. Of their 92 aspirations 11 or nearly 12% were reported "unsatisfactory." Of the six patients without suspicious physical findings yet with a positive aspiration, three or 50% were reported falsely positive. And dramatically, among six patients clinically thought to have cancer but with negative aspirations, five did reveal carcinoma on open biopsy, creating an 83¼% false negative result on aspiration.

III. Withdrawing fluid from a breast mass, which then is no longer palpable, gives great satisfaction and sense of security, unless the fluid is bloody. But we tend to forget that a tiny carcinoma of a few millimeters can block a duct and create a clear cyst, still being too small to palpate even after evacuation. A metastatic axillary node may already be palpable with such a minute primary.

YES, a positive needle biopsy, whether by fine needle aspiration or by "2-piece thin wall slotted needle" ('Silverman' or B-D), can urge open biopsy—or even definitive therapy. It can enable "better planning of the operative procedure." Or it can aid in the treatment of fibrocystic disease.

BUT, if the report is negative ..... 1) The needle may have failed to obtain representative cells. The meticulous technique of the operator is essential. 2) The histopathologist may not have recognized significant cells. The material must be scrutinized by one experienced in reading these slides.

SO, if the report is negative, the final diagnosis and decision should be based totally on other criteria—AS IF THE ASPIRATION HAD NEVER BEEN DONE.

E. Tremain Bradley, M.D.
General Surgeon: Winsted Memorial and Norwalk Hospitals
Editor: FOLLOW-UP OF CANCER, A Handbook for Physicians.
1040 King's Crown Drive
Sanibel, FL 33957

The above letter was referred to the authors of the article in question, who offer the following reply.

To the Editor: Dr. Bradley's comments on fine needle aspiration of solid breast masses are appreciated. Obviously , long term follow up of patients not operated upon will be necessary to make sure that no carcinomas develop in this group.

The majority of the eleven aspirations reported as unsatisfactory occurred early in the series and were related to inadequate experience in obtaining the tissue sample and improper fixation of the tissue. It should be emphasized that the tissue on the slide has to be fixed immediately before air drying occurs.

Of six patients without suspicious clinical findings who had positive aspirations, the three patients reported falsely positive all had cellular atypia and were classified as Class III suspicious enough to warrant biopsy. However, of more importance were the three other patients in this group who on careful physical examination were thought to have fibrocystic disease and needle aspiration was positive for cancer, eliminating delay in treatment.

Of the six patients who had a positive physical examination and negative aspiration, the tumor was obviously missed in three cases and was underclassified by the cytopathologists in two cases. Again, this happened during the early part of this study before more experience with the technique was obtained.

Dr. Bradley agrees with needle aspiration of cysts and I don't believe he means to suggest that after a non bloody cyst has been evacuated and the mass disappears that biopsy is still indicated to search for a tiny carcinoma. We agree with Dr. Bradley that the meticulous technique of the operator is essential and cytopathologists must be experienced in reading the slides.

If needle aspiration is reported as negative, the final diagnosis and decision should be based at this time on other criteria—clinical examination and mammography. However, we expect that as the technique of sampling and reading of the aspirated material is refined, decreasing false negative and positive results, fine needle aspiration will become more significant in the diagnostic office work up of patients with solid breast masses.

Robert W. Painter, M.D.
Hartford, CT

D.C. Leads in Percent of Women Physicians

The District of Columbia leads the fifty states and possessions in the percentage of physician population constituted by women. Its 764 women physicians make up 18.4 percent of all physicians within the District, proportionally the highest in the nation.

As of November, 1981, the national average for women physicians (federal and nonfederal) was 12 percent. The individual state percentages range from 4.5% (Idaho) to 16.7% (New York). States with less than seven percent women physicians are Idaho, Montana, North Dakota, South Dakota, Nevada, Utah and Wyoming. The leaders, all with more than 14 percent women physicians, are Delaware, Maryland, Massachusetts, New Jersey, Illinois and New York.

Among the highest on the list were the U.S. possessions, including Puerto Rico (15%), the Pacific Islands (15.6%) and the Virgin Islands (17.9%).

Interestingly, when the figures are broken down to include only residents-in-training, the Virgin Islands fall to last on the list; of the three residents-in-training counted there, not one is a woman. But the Pacific Islands retain their leading position with 100 percent, or both, of the two residents-in-training counted there being women.

State percentages for residents-in-training range from 11.7% (North Dakota) to 27.7% (Delaware). States with fewer than 16 percent women residents-in-training are Louisiana, Florida, Montana, Alabama, Vermont and North Dakota. States with greater than 25 percent women residents-in-training are Connecticut, New Hampshire, Illinois, Wyoming, Massachusetts, Rhode Island and Delaware. Higher still are Puerto Rico (30.3%) and the District of Columbia (31.3%).

The current national average for women residents is 22 percent; for women medical students, the national average is 27.5 percent. According to a report by the American Medical Association's committee on women physicians in organized medicine, increasing enrollment of women in medical schools could swell the national percentage of women physicians to 33 percent within this decade.

Hepatitis B Vaccine

A vaccine against Hepatitis B (*Heptavax-B*—Merck) is now commercially available in the United States. The hepatitis B virus causes hepatitis in hundreds of thousands of people each year in North America; the initial infection is fatal only in a few, but others go on to develop chronic active hepatitis, cirrhosis, and (rarely in North America) hepatocellular cancer. In less developed areas of the world, the incidence of all of these disorders is much higher; it has been estimated that 200 million people are chronically infected with the hepatitis B virus (HJ Alter, JAMA, 247:2272, April 23/30, 1982).

The Vaccine

Hepatitis B vaccine is composed of chemically inactivated hepatitis B surface antigen (HBsAg) particles obtained from the plasma of chronic HBsAg carriers and adsorbed onto aluminum hydroxide (alum). The vaccine is given as three 20-μg (1 ml) doses administered intramuscularly; the two initial doses are given a month apart and a booster dose is administered six months after the first dose. For patients on dialysis and others who are immunocompromised, three 40-μg (2 ml) doses should be used. For children less than 10 years old, three 10-μg (0.5 ml) doses are recommended.

Antibody Response

Specific antibody (anti-HBs) develops in 75 to 90% of healthy adults after the first two doses of vaccine, and in 85 to 95% after the third dose. Vaccine-induced antibody has persisted for at least three years; longer periods of observation may indicate that booster doses will be required, possibly at intervals of five or more years (S Krugman, JAMA, 247:2012, April 9, 1982). Patients on dialysis or others with an impaired immune response may not respond as well.

Clinical Trials

Two large clinical trials of the Merck hepatitis B vaccine among homosexually active men indicate that it should have about 95% protective efficacy (W Szmuness et al, Hepatology, 1:377, 1981; DP Francis et al, Ann Intern Med, 97:362, September 1982; AA McLean and R Shaw, Ann Intern Med, 97:451, September 1982). Almost all of the vaccine failures occurred either within three to four months after the first dose of vaccine (presumably in patients already incubating the virus at the time of vaccination) or in vaccinees who showed no serologic response to the vaccine.

Adverse Reactions

In placebo-controlled trials, the only adverse effect consistently observed more often with vaccine than with placebo was temporary soreness at the injection site, which occurs in about 10% of vaccinees. No serious immediate or long-term adverse reactions to the vaccine have been reported.

Inactivation of Viruses

Since the plasma with a high titer of HBsAg used in the production of the hepatitis B vaccine was obtained mainly from male homosexuals, some clinicians have asked about the possibility of transmitting the potentially lethal acquired immune deficiency syndrome reported in homosexuals, IV drug abusers and, most recently, in hemophiliac patients (Morbid Mortal Weekly Rep, 31:365, July 16, 1982). However, even if this syndrome turned out to be caused by a transmissible agent, the agent would almost certainly be inactivated by the procedures used in preparation of the vaccine. These steps, which include digestion with pepsin at pH 2, treatment with 8-molar urea and formaldehyde, and various physical separation procedures, inactivate all known classes of viruses. More than 12,000 people have already received the vaccine and some have been observed for as long as three years, with no indication of any ill effects.

Indications

The hepatitis B virus can be transmitted parenterally, by intimate contact, or perinatally from mother to infant. High-risk groups for whom the vaccine has been recommended include dentists, oral surgeons, dental hygienists, medical personnel (particularly those who have frequent contact with blood or blood products), IV drug abusers, patients with thalassemia and those who frequently receive transfusions with clotting factor concentrates (factor VIII and IX), hemodialysis pa-

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tients, homosexually active men, residents and staff of institutions for the mentally retarded, and family contacts (expecially sex partners) of chronic HBsAg carriers (Morbid Mortal Weekly Rep, 31:317, June 25, 1982; HJ Alter, JAMA, 247:2272, April 23/30, 1982; JL Dienstag and DM Ryan, Am J Epidemiol, 115:26, 1982).

No convincing data are yet available on the effectiveness of the vaccine for post-exposure prophylaxis after accidental needlesticks or sexual contact with patients with acute hepatitis B, or for newborn infants whose mothers are infected. In these situations hepatitis B immune globulin (Medical Letter, 20:9, 1978) is recommended. However, newborn infants whose mothers are chronic HBsAg carriers should probably also receive the vaccine (S Krugman, Pediatr Infect Dis, 1:217, July/August, 1982). In adults, at least, the antibody response to the vaccine is not inhibited by previous or concurrent administration of hepatitis B immune globulin (W Szmuness et al, Lancet, 1:575, 1981).

Cost

The current Merck plasma-derived hepatitis B vaccine is more expensive than other vaccines available in the United States; it costs $30 to $35 a dose, or approximately $100 for the three-dose series. New techniques that use microorganisms to produce the vaccine may bring the cost down in the future (P Valenzuela et al, Nature, 298:347, July 22, 1982). Prevaccination testing for susceptibility to hepatitis B by assaying for antibody to HBsAg costs $10 to $20.

Conclusion

Hepatitis B vaccine (*Heptavax-B*—Merck) is highly effective for pre-exposure protection against hepatitis B. It is indicated for people with a high risk of exposure to the disease.

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The Society maintains the Physician Placement Service as a service to the medical profession in Connecticut. Opportunities for physicians to locate in Connecticut will be published as space permits and will be distributed to physicians making inquiries of such opportunities. Information should be sent to 160 St. Ronan St., New Haven, CT 06511 (203-865-0587).

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ADULT/PEDIATRIC IMMUNOLOGY. July '83. Age: 36. AB elig. MD, Barcelona Medical School, Spain; Int., Nassau Hospital, New York; Res., Maimonides and St. Barnaba's, New Jersey; Fellowship, University of Saskatchewan, Canada and Medical College of Wisconsin, Milwaukee. Desires solo, group, assoc. or institutional type practice. Write: Peter Laufer, M.D., 1700 W. Wisconsin Ave., Milwaukee, Wisconsin 53233.

DERMATOLOGY

Immediately. Age: 29. Nat'l bds. AB elig. MD, Res. and Int., SUNY at Buffalo. Prefers medium to large community solo, group, assoc. or institutional type practice. Write: Stewart Altmayer, M.D., 134 Princeton Street, Amherst, NY 14226.

FAMILY MEDICINE

July '83. Age: 33. Nat'l bds. AB ELIG. MD, University of Vermont College of Medicine; Int. and Res., Penn. State University, Hershey Medical Center. Would prefer partnership or small group practice. Would enjoy participating in medical student or resident education. Write: Warren H. Morgan, M.D., 239 University Manor, Hershey, PA 17033.

INTERNAL MEDICINE

Sept. '83. Age: 32. Nat'l bds. AB elig. MD, University of Minnesota, Minneapolis; Int. and Res., Hennepin City Medical Center. Prefers small to medium size practice. Special interest in Hem/Onc. with group or assoc. practice. Write: Guilford G. Hartley, M.D., 1646 Bohland Ave., St. Paul, MN 55116.

GASTROENTEROLOGY. July '83. Age: 32. Nat'l bds. AB cert. MD, Albert Einstein College of Medicine; Int. and Res., Bronx Municipal Hosp. Ctr./Albert Einstein; Fellowship, Univ. of Oregon Health Sciences Center. Prefers assoc., group or solo type practice in medium to large size community. Write: CSMS, IM/MTB.

NEPHROLOGY. July '83. Age: 30. Nat'l bds. AB cert. MD, Columbia P & S: Int., Res. and Fellowship, Boston Univ. Hospital. Desires group or institutional type practice. Write: Christopher Ying, M.D., 250 Commonwealth Ave., #11, Boston, MA 02116.

July '83. Age: 35. Presently in practice. Nat'l bds. AB cert. MD, Tufts Univ. School of Medicine; Int. and Res., George Washington Univ. Hospital. Desires group or assoc. type practice in medium size community. Write: Norman Einstein, M.D., 3628 Jenifer St., N.W., Washington, DC 20015.

July '83. GASTROENTEROLOGY. Age: 40. AB elig. MD, University of Guadalajara, Mexico; Int., New York Medical College (Lincoln Hospital, Bronx); Fellowship, Letterman Army Hospital, San Francisco, CA. Prefers group, assoc., solo type practice. Write: William W. Mark, Jr., M.D., 2289 So. Lewiston St., Aurora, CO 80013.

Nov. '82. PRIMARY CARE. Presently in practice. Age: 50. AB elig. MD, Georgetown Medical School; Int. and Res., St. Vincent's, Worcester, MA; Fellowship, Seton Hall Medical School, Jersey City Medical Center, East Orange, VA. Desires group or assoc. type practice. Write CSMS, IM/LRM.

INTERNAL MEDICINE—Continued

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HEMATOLOGY/ONCOLOGY. Age: 31. Nat'l bds. AB cert. MD, New Jersey Medical School, Newark, NJ; Int. and Res., Cambridge Hospital, Cambridge, MA; Fellowship, St. Elizabeth's Hospital, Boston, MA. Prefers solo, group, assoc. or institutional type practice. Write: Robert B. Liberman, M.D. 51 Harnden Ave., Watertown, MA 02172.

Oct. '82. Licenced in Connecticut. Age: 31. AB elig. FLEX. MD, Stanley Medical College, India; Int. and Res., Upstate Medical Center, NY. Prefers group, assoc. or institutional type practice. Write: CSMS, BS/IM.

Summer 1983. Presently in practice. Age: 34. Nat'l bds. AB cert. MD, Downstate Medical Center; Int. and Res., Kings County Hospital; Fellowship, George Washington University. Prefers group or assoc. type practice in medium size community. Willing to do general primary care medicine and pulmonary medicine and would like to be closely affiliated with a hospital. Write: CSMS, IPK/IM.

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Immediately. Age: 37. FLEX. AB cert. MD, Yonset University College of Medicine; Int. Severance Hospital, Korea; Res., Baptist Memorial Hospital, Memphis, TN. Prefers solo, group, assoc. or institutional type practice. Would also consider General Practice. Write: Kil S. Kim, M.D., 2825 Ashwood Dr., Chesapeake, VA 23321.

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July '83. Age: 27. Nat'l bds. AB elig. MD, State Univ. of NY./Downstate Medical Center; Int. and Res., Brookdale Hospital. Prefers solo or assoc. type practice in medium size community. Write: Mark Sperber, M.D., 1615 Avenue I, Brooklyn, NY 11230.

PEDIATRIC HEM/ONCOLOGY. July '83. Age: 30. AB elig. MD, Medical College, Baroda, India; Int. and Res., King's County Hospital; Fellowship, Memorial Sloan Kettering Cancer Center, Cornell University Hospital. Write: Shailesh J. Shah, M.D., 430 East 67th St., Apt. 5-C, New York, NY 10021.

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July '83. VASCULAR & GENERAL. Age: 32. FLEX. AB elig. MD, Guntur Medical College, Gunter, India; Int., Illinois Central Hospital, Chicago; Res., Sinai Hospital of Baltimore and Fairview General Hospital, Cleveland; Fellowship, Arizona Heart Institute, Phoenix. Prefers solo, group or assoc. type practice. Write: Rao S. Bhatraju, M.D., 10030 N. 43rd Ave., #1066, Glendale, AZ 85302.

UROLOGY

July '83. Age: 33. AB elig. MD, Tirunelveli Medical College, India; Int., Brooklyn Jewish Hospital, NY; Res., Brookdale Hospital, NY (Surgery); State Univ. of NY at Buffalo, (Urology). Prefers solo or institutional type practice. Write: V.P. Nagarajan, M.D., 61 Maple Court, #4, Synder, NY 14226.

July '83. Age: 29. Nat'l bds. AB elig. MD, Cornell Medical College; Int., Mt. Sinai Hospital, NY; Res., NY Hospital—Cornell Medical Center. Prefers solo, group or assoc. type practice. Write: Arthur Israel, M.D., 435 E. 70th St., Apt. 23-J, New York, NY 10021.

Jan. '83. Licenced in Connecticut. Presently in practice. Age: 59. State boards. AB cert. MD, University of Geneva; Int., Brooklyn Jewish Hospital; Res., USVAH, Brooklyn, NY and Mount Sinai Hospital, NY. Prefers group or assoc. type practice in medium size community. Write: Donald R. Krawitt, M.D., 2675 Winkler Ave., Fort Myers, FL 33901.

Pancreatic Abscess: Diagnosis and Treatment

STEVEN A. BELINKIE, M.D., JOHN C. RUSSELL, M.D., JOEL DEUTSCH, M.D.
AND DONALD R. BECKER, M.D.

ABSTRACT—The five-year experience with pancreatic abscesses was reviewed. Of 1187 patients admitted with acute pancreatitis, seven required surgical drainage of pancreatic abscesses. There were no deaths. Although UGI series, ultrasound, and computed tomography usually revealed pancreatic edema, there were no characteristic findings for pancreatic abscess. The diagnosis of pancreatic abscess was made on clinical grounds of fever, leukocytosis, and failure to improve on conservative therapy. Hyperalimentation was integral in the management of most patients. Operative management consisted of wide sump drainage of the peripancreatic retroperitoneum. More than half of these patients required re-exploration and further drainage procedures. Feeding jejunostomies, placed well away from areas of pancreatic inflammation, may facilitate management of these patients.

Pancreatic abscess is a relatively rare but potentially life-threatening complication of acute pancreatitis. Its incidence has been reported to be approximately 4%. [1,2] The five-year experience with pancreatic abscess at Mount Sinai Hospital and Saint Francis Hospital and Medical Center has been reviewed in an effort to define more precisely the diagnostic criteria, and to update the management of this serious complication. The input of new diagnostic and therapeutic modalities such as ultrasound, CT scan, and hyperalimentation was assessed.

From 1975 through 1980, 1187 patients were admitted to the combined surgical services of Mount Sinai and Saint Francis Hospitals with the diagnosis of acute pancreatitis. Of these, seven patients were treated for pancreatic abscess, an incidence of 0.6%. All underwent surgical drainage, and all survived. Extensive preoperative workup in all patients, including CBC, amylase, UGI, and ultrasound, failed to reveal any objective criteria upon which to make the diagnosis. The diagnosis in all cases was based upon clinical grounds such as continued sepsis, or failure to improve with conservative management. Hyperalimentation was an important adjunctive therapy both pre- and postoperatively.

Materials and Methods

All charts from the combined surgical services of Mount Sinai and Saint Francis Hospitals with the discharge diagnosis of pancreatic abscess during the period 1975 through 1980 were reviewed. Cases which were not substantiated with operative finds were excluded. A representative case is presented below.

Case Report

A 67-year-old white female was admitted with a three-day history of crampy midepigastric abdominal pain and nausea. There was no history of biliary disease or alcohol abuse. Family history was significant for several cases of apparently idiopathic pancreatitis.

Admission physical exam revealed midepigastric tenderness, but was otherwise unremarkable. Admission laboratory revealed a mild leukocytosis of 12,500 (normal differential); amylase was elevated to 1000. The admitting diagnosis was acute pancreatitis.

She was treated conservatively with nasogastric suction, intravenous hydration, and nothing by mouth. However, she continued to complain of abdominal tenderness. The amylase returned to normal within one week of admission. Eight days after admission, she spiked a temperature to 102. Following this, she began to spike daily temperatures in the range of 101-102. WBC remained 10,-12,000, and amylase remained normal.

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Reprint requests to: Department of Surgery, Saint Francis Hospital and Medical Center, 114 Woodland St., Hartford, CT 06105 (Dr. Belinkie).

Blood cultures were negative. An upper gastrointestinal series was performed which revealed a mass deforming the stomach. (Figure I) An ultrasound done two weeks after admission showed fullness, thought to be solid, in the head of the pancreas. (Figure 2) Computer tomography revealed an inflammatory mass of the head of the pancreas, displacing the stomach and duodenum. (Figure 3) Gallium scan showed diffuse uptake in the region of the pancreas.

She continued to have a febrile course, and four weeks following admission, underwent exploratory laparotomy. An abscess was noted involving the head of the pancreas and the lesser sac. She was treated with sump drainage, and went on to make an uneventful recovery.

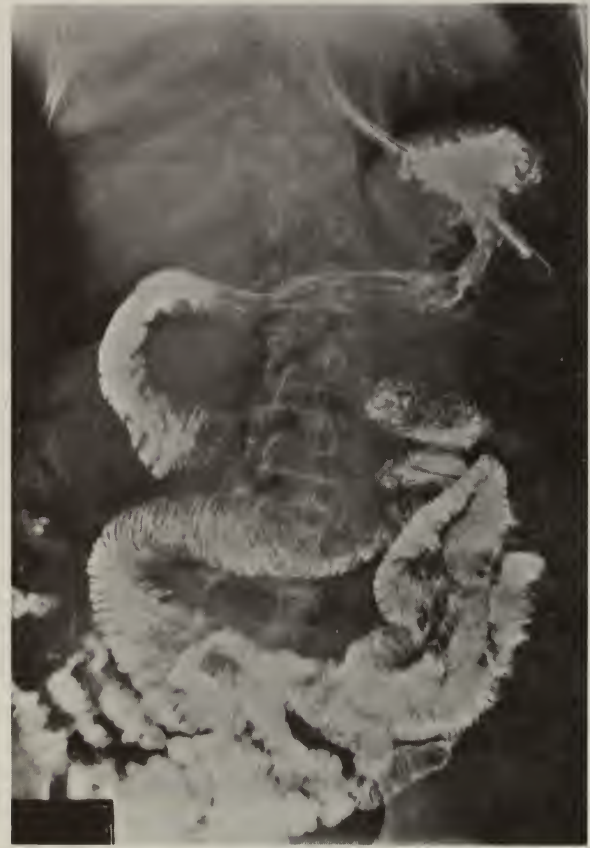

Figure I
Upper gastrointestinal study showing mass displacing stomach and duodenum.

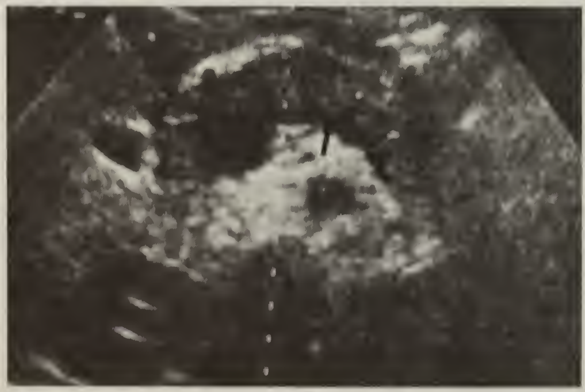

Figure 2
Ultrasound demonstrating inflammatory mass (above arrows) in region of pancreas.

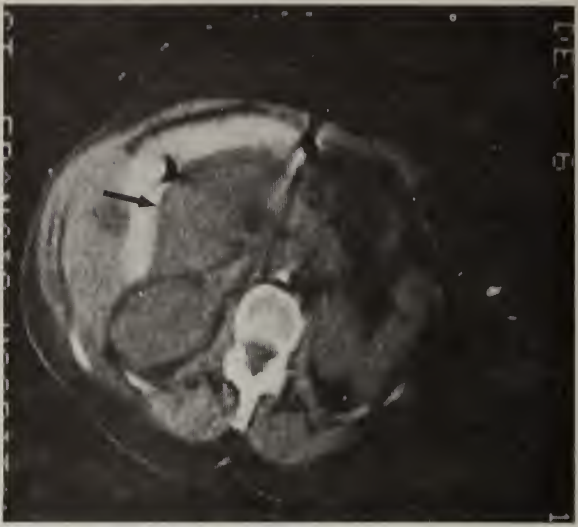

Figure 3
Computer Tomography revealing large inflammatory mass involving head of pancreas and displacing the contrast-filled stomach and duodenum. (Arrows)

Results

During the period 1975-1980, seven patients underwent drainage of pancreatic abscess at Mount Sinai Hospital or Saint Francis Hospital and Medical Center. The patients seem to fall into two groups. (Table 1) There were two elderly females with idiopathic pancreatitis, and five men with alcoholic pancreatitis. The age ranged from 38 to 71. (Table 1)

Table I

Patient	*Age*	*Sex*	*Etiology*
J.W.	67	F	Idiopathic
M.D.	71	F	Idiopathic
F.S.	66	M	Alcoholic
J.D.	47	M	Alcoholic
P.F.	38	M	Alcoholic
R.B.	46	M	Alcoholic
C.J.	45	M	Alcoholic

The presenting signs and symptoms in these patients were consistent with those reported in previous reviews.[1, 2, 3] All patients complained of abdominal pain, and all had fever. Other findings included nausea, vomiting, jaundice, leukocytosis, elevated amylase, and sepsis. (Table 2) Workup for these patients included further diagnostic studies as well.

Table 2
PRESENTING SIGNS AND SYMPTOMS

	# of Patients	*%*
Abdominal pain	7/7	100%
Fever	7/7	100%
Nausea	6/7	86%
Vomiting	6/7	86%
Leukocytosis	6/7	86%
Elevated amylase	5/7	71%
Jaundice	2/7	28%
Sepsis	1/7	14%

The tests revealed a pancreatic or peripancreatic lesion, but were not specific in identifying it as an abscess. Figures 1, 2, and 3 are representative of the usual findings on upper gastrointestinal series, ultrasound, and computed tomography in patients with pancreatic abscesses.

Treatment in all patients consisted of surgical drainage. In four cases, this was preceded by preoperative hyperalimentation. The diagnosis was made preoperatively in six of seven patients. The remaining patient was explored for UGI bleeding, and an abscess was drained incidentally.

Postoperative complications were common, occurring in five patients. The most frequent complication was recurrent abscess, in four of the seven patients. One such recurrence drained spontaneously. The others required surgical treatment. One patient developed a second recurrence which was drained percutaneously under ultrasonic control. Other complications were less frequent, and included diabetes, atelectasis, and phlebitis. (Table 4)

Table 3
DIAGNOSTIC STUDIES

Study	*# of Patients*	*% of Positive Patients*
UGI	6	100% (mass effect)
Ultrasound	7	100% (4 cystic lesions)
CT Scan	2	100% (3 solid cystic lesions)
Gallium scan	2	100% (uptake in pancreas)

Table 4
POSTOPERATIVE COMPLICATIONS

Recurrence	4/7	57%
Pulmonary	3/7	42%
Diabetes	1/7	14%
Phlebitis	1/7	14%
UTI	1/7	14%

Discussion

Purulent collections secondary to acute pancreatitis are not restricted to the pancreatic parenchyma.[4] The term pancreatic abscess also includes collections involving the lesser sac, retroperitoneum, and even the mesentery. These abscesses originate in devitalized pancreatic tissue, necrotic fat and extravasated fluid, which remain after an attack of acute pancreatitis.[1,4] and becomes secondarily infected. The sources of infection are many and include direct, transmural seeding from adjacent colon, invasion from infected bile, hematogenous or lymphatic spread, and iatrogenic causes.[4]

The natural history of pancreatic abscess, if left untreated, is dismal. Several studies have report 100% mortality.[2,5] Death is usually caused by progressive deterioration in nutritional status, respiratory and pancreatic failure, sepsis, or erosion into a major vessel.[1,2,3]

In most series, alcohol and biliary disease are the leading causes of pancreatic abscess.[1,3,4,6] Ranson has also implicated early operation (within seven days of an attack of acute pancreatitis) as an important etiologic factor, but this was not seen in this series.[6] Five of our seven patients had alcohol abuse as an etiologic factor.

Presenting symptoms in each case were similar. These included fever, abdominal pain, nausea, and vomiting. Fever was present in all patients at some time in their illness. The magnitude of fever or leukocytosis did not seem to correlate with the magnitude of the infection. Likewise, the amylase level did not seem to be related to the development of, nor the presence of, pancreatic abscess.

Ranson has developed a series of prognostic indicators to grade the severity of acute pancreatitis,[7] and to predict the likelihood of subsequent pancreatic abscess.[6] With less than 3 signs, the incidence of abscess is 2.7%. If there are 3-5 signs, the incidence is 32%. When there are more than five signs, the change of developing an abscess rises to 50%.[6] According to this criteria, our patients fell into two categories. The two elderly women with idiopathic pancreatitis had less than three signs, and should have been at small risk. The five alcoholic males had more than three signs each.

The diagnosis was made preoperatively in six of the seven cases. The UGI consistently showed a nonspecific mass effect. (Figure 1) Ultrasound was more helpful, localizing the lesion to the pancreas, and in most cases, identifying the lesion as cystic. (Figure 2)

CT scanning was of limited additional help in this small series. (Figure 3). Kressel *et al.* have suggested that ultrasound and CT scanning are complementary in the evaluation of the pancreas.[8] Ultrasounds may be suboptimal in some patients with ileus. In other cases, however, ultrasound may be more convenient and economical for serial examinations.

The diagnosis of abscess remains primarily a clinical one. However, percutaneous needle aspiration under ultrasound or CT control may help confirm the diagnosis preoperatively. This was performed successfully in one patient.

Once the diagnosis has been made, the treatment remains operative debridement and drainage. This traditionally has been accompanied by a distressingly high incidence of recurrence, and this series is no exception.[3] A possible explanation for many of these recurrences may be inadequate initial drainage. In a review of this problem, Holden *et al.* noted that the most common site for recurrence is one or both paracolic gutters.[3] He emphasizes the importance of thoroughly exploring the abdomen and retroperitoneum at the time of operation. Recently, Berne and Donovan reported nine cases of pancreatic abscess undergoing synchronous anterior celiotomy and posterior drainage following resection of the twelfth rib.[9] All patients survived, and only one patient required reoperation for drainage of another abscess (left retrocolic).

Postoperative fistualization and hemorrhage carry a very high mortality.[3] It is possible that the use of hard drains, such as sumps, may inadvertently contribute to these complications by eroding into tissues already damaged by pancreatic or septic debris. If such drains are used, care must be taken to place them away from vital structures.

Some authors have advocated marsupialization of the abscess cavity as an alternative to sump drainage.[10] While this approach does avoid the risk of sump drains, it carries with it the problem of postoperative dressing changes which must be done in the OR under anesthesia.

Some authors have attempted percutaneous drainage of pancreatic abscesses under ultrasonic or CT scan control. While this review has no cases which were so treated, the recent literature suggests that there may be a role for percutaneous drainage. Karlson reported on a six patients treated initially with percutaneous drainage.[11] Three of these patients required no further treatment. The remaining three all underwent a later surgical procedure to complete the drainage. However, the authors remark that two of these patients were moribund at the time of the percutaneous procedure and may not have survived surgery at that time. A report by Gerzol[12] confirms the view that although percutaneous drainage of pancreatic abscesses may not be an adequate definitive drainage procedure, it does have a role in temporizing opportune time.

Hyperalimentation was used aggressively in those patients who required it, and no doubt played a major role in the low mortality rate. Four patients were hyperalimentated, and despite extensive preoperative evaluation and long and complicated postoperative courses, all survived. Parenteral hyperalimentation is difficult in patients such as these, since they are often septic, and glucose intolerant. As a result, it has been suggested that a feeding jejunostomy be constructed at the time of operation. Holden *et al.* did this in five patients, and experienced leakage in two of them.[7] Despite the difficulties inherent in parenteral hyperalimentation, it may be a safer form of nutritional support. Holden suggests that if a feeding jejunostomy is used, care be taken to place it away from areas of sepsis and enzymatic leak.[3] Needle-catheter jejunostomy may be an excellent alternative to standard tube jejunostomy,[13] but neither was used in the cases reviewed.

Balooki *et al.* reported a mortality of 27% when the abscess was drained within 18 days of admission. This mortality jumped to 75% if drainage was delayed longer than 18 days from admission.[1] The patients reviewed here had intervals from admission to surgery ranging from 13 to 38 days, with the average being 21 days.

Although the aggressive use of nutritional support may have reduced morbidity and mortality, it is potentially a double-edged sword. Hyperalimentation has removed much of the urgency for early operation, and potentially allowing unnecessarily long preoperative workups. Pancreatic abscess is a surgical disease. At best, trials of antibiotic therapy only delay the inevitable surgical procedure. At worst, they allow disastrous complications, such as septic shock or erosion of the abscess into a major vessel, to occur during the period of observation.

Conclusions

Seven cases of pancreatic abscess were reviewed, an incidence of 0.6% of all admitted cases of acute pancreatitis. Five cases were secondary to alcoholic pancreatitis, and two cases were idiopathic in etiology. All underwent surgical drainage. There were no mortalities. Frequent recurrences were seen, requiring reexploration and further drainage.

The presentation of these patients was consistent with previously described series. They usually had pain, fever, nausea, and vomiting. In addition, the white cell count and amylase were usually elevated. This did not, however, correlate with the magnitude of the infection. Diagnostic studies such as UGI, ultrasound, and CT scan were helpful, but nonspecific. In this series, the diagnosis was primarily a clinical one.

Percutaneous aspiration of peripancreatic masses for diagnosis under ultrasound or CT control may be useful in selected cases. However, the role of therapeutic percutaneous drainage of these lesions is still not well defined. Such procedures may be helpful in temporizing the desperately-ill patient and allowing for definitive drainage at a more opportune time.

Exploration and drainage must be thorough, as the leading postoperative complication is recurrent abscess. Vigorous nutritional support is essential in these septic and often malnourished patients. Parenteral hyperalimentation is often difficult in these patients, but a feeding jejunostomy carries with it a significant risk of leakage unless care is taken to isolate the jejunostomy from areas of pathology.

The operative decisions should be made as soon as possible. Delay in draining these lesions may carry with it the risk of serious complications.

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Palliative Treatment of Malignant Esophago-Pulmonary Fistula by Peroral Prosthesis

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ABSTRACT—A patient with inoperable esophageal cancer complicated by an esophago-pulmonary fistula was palliated with an esophageal prosthesis inserted under endoscopic control. She is now eating normally and maintaining her weight eight months post-procedure. Insertion of an esophageal prosthesis under endoscopic control can be a simple and safe procedure and is a very effective method of palliative care in these patients.

The overall poor survival of patients with esophageal carcinoma has not changed significantly over the past few decades.[1] Thus the primary goal in inoperable cases often becomes the relief of dysphagia and related symptoms. Patients with esophageal cancer complicated by a fistula are usually debilitated by incessant cough and sputum, recalcitrant pulmonary infections, and the nutritional depletion caused by their impaired oral intake. Peroral esophageal prostheses for fistulae occlusion have been used with success.[2-5] We describe such a patient here, who has benefited greatly by palliative treatment with an esophageal prosthesis.

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Case Report

A 50-year-old white woman presented in July, 1981, with a two week history of solid food dysphagia localized in the cervical region, and a ten pound weight loss. Physical examination at the time was unremarkable. A barium swallow revealed a four cm. annular constricting lesion in the upper third of the esophagus. During flexible fiberoptic endoscopy, an irregular friable mass was noted to be protruding into the lumen at approximately 20 cm. from the incisors. A biospy of the lesion confirmed the diagnosis of moderately differentiated epidermoid carcinoma. The patient underwent a total of 6000 rads of radiotherapy from August to September, 1981. A metastatic work-up, including a bone scan and liver scan, was negative.

During radiotherapy, the patient complained of increasing difficulty swallowing. There had also been a six pound weight loss over the preceding month. A barium swallow confirmed a persistent narrowing of the esophageal lumen. Following esophageal dilation up to size 40 French (equivalent to 13.3 mm) with Maloney mercury bougies, her symptoms improved.

She did well as an outpatient until October, when she developed a fever and a productive cough. A repeat upper gastrointestinal series (Figure 1) revealed an esophago-pulmonary fistula. A paramediastinal infiltrate was present in the right upper lung field on chest X-ray (Figure 2). The patient was hospitalized and placed on intravenous hyperalimentation and antibiotics. Surgical consultation advised against operative intervention.

The patient underwent esophageal dilation with Maloney mercury bougies under fluoroscopic guidance over the course of one week up to a size 46 French (15 mm). The patient was then transferred to Yale-New Haven Hospital for the placement of a Tygon esophageal prothesis. A prosthesis, 9 cm. in length, with an internal diameter of 39F (13 mm.) and an external diameter of 48F (16 mm) was constructed (Figure 3) as described by Boyce.[6]

The prosthesis was inserted under endoscopic control at the stricture site, similar to the method described by Der Hartog Jager[3] and modified by Minami and McCallum.[7] With the endoscope in

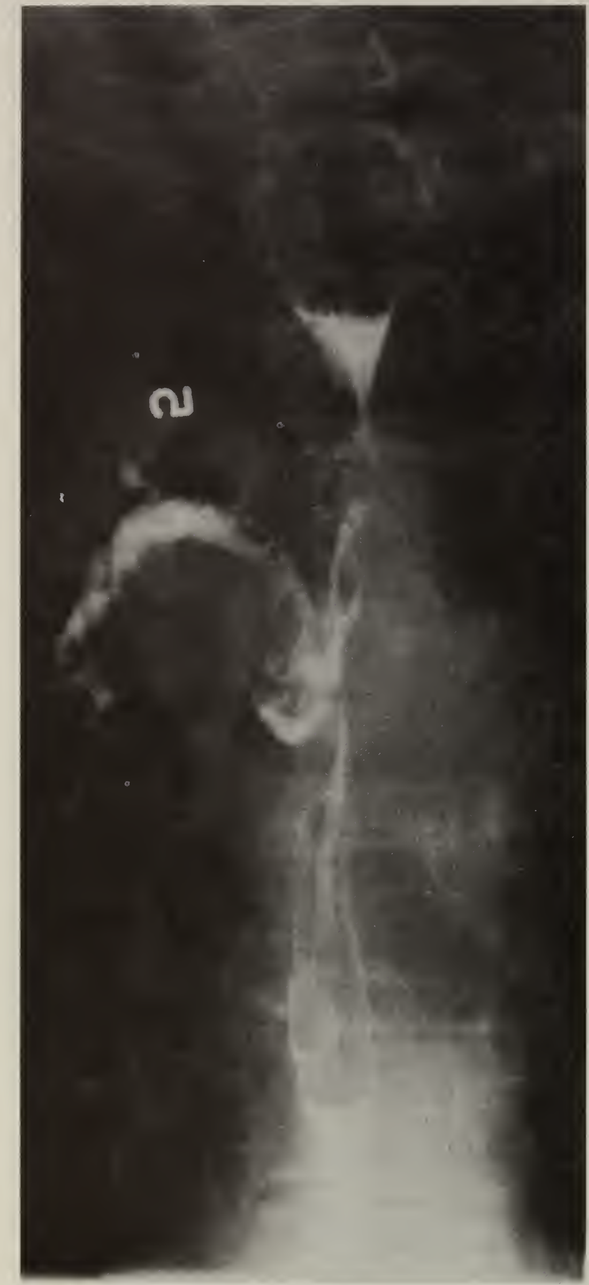

Figure 1
Barium swallow showing the esophageal stricture and the esophago-pulmonary fistula.

place above the site of the tumor and fistula orifice (Figure 4), the prosthesis was advanced over the endoscope with a pusher tube into the esophageal lumen. Under direct vision, the prosthesis was positioned with the proximal flange resting on the tumor ledge and the shaft of the prosthesis occluding the fistula. The proximal end of the prosthesis lay only several centimeters below the upper esophageal sphincter. A follow-up barium swallow showed the tube to be in good position (Figure 5).

After the procedure, the patient had a low grade fever which resolved after antibiotic therapy. She commenced oral feedings and was discharged a few days later, able to tolerate all liquids and most solid foods. Despite the proximity of the prosthesis to the upper esophageal sphincter, she never sensed the presence of the prosthesis.

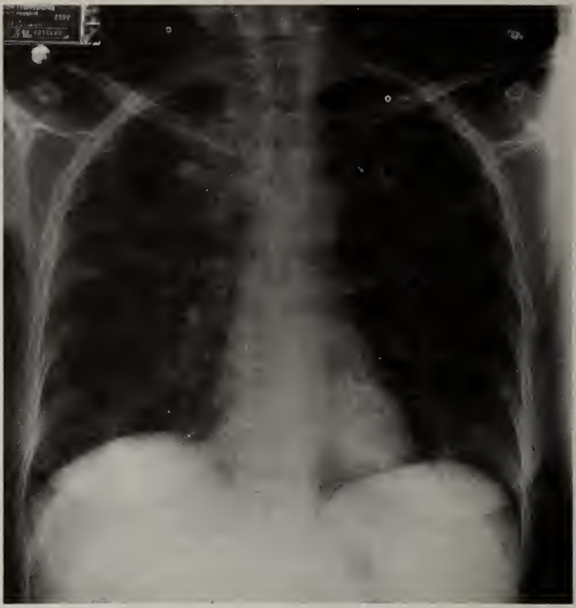

Figure 2
A chest X-ray showing the right upper lung infiltrate in the area of the fistula.

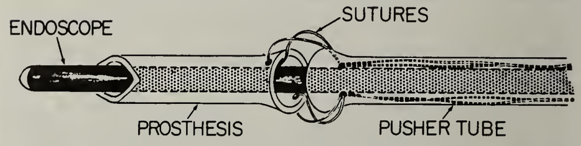

Figure 3
Diagram of the esophageal prosthesis with pusher tube on endoscope in preparation for insertion. Sutures allow for retrieval during the procedure and are removed after proper placement is achieved.

During the next eight months, she has been able to eat well and maintained a stable weight. She is free of cough and sputum, and the lung infiltrate seen on chest X-ray has markedly diminished on continued oral antibiotic therapy.

Discussion

Esophago-pulmonary fistula is not an unusual complication of esophageal cancer, occurring in 5-10 per cent of all cases.[8] It can occur before or during radiotherapy, and is often heralded by a sudden onset of incessant cough, hemoptysis or aspiration pneumonia. In the past, the presence of a fistula had been regarded as a hopeless situation. Without intervention, nearly all patients die within one month, usually from complications related to aspiration pneumonia.[9]

Management of this problem is certainly difficult. Slow starvation is inhumane, and gastrostomy feedings certainly subtract from the goal of improving the quality of these patients' limited life. Peroral prosthesis, inserted under endoscopic guidance, is a simple,

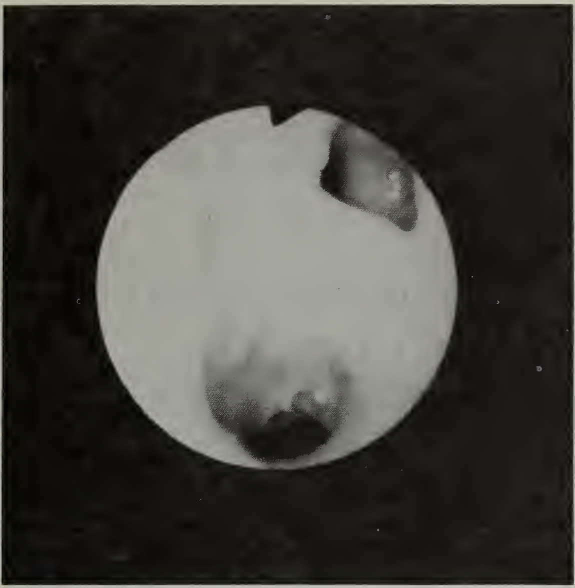

Figure 4
Endoscopic visualization of the esophageal lumen and fistulous orifice.

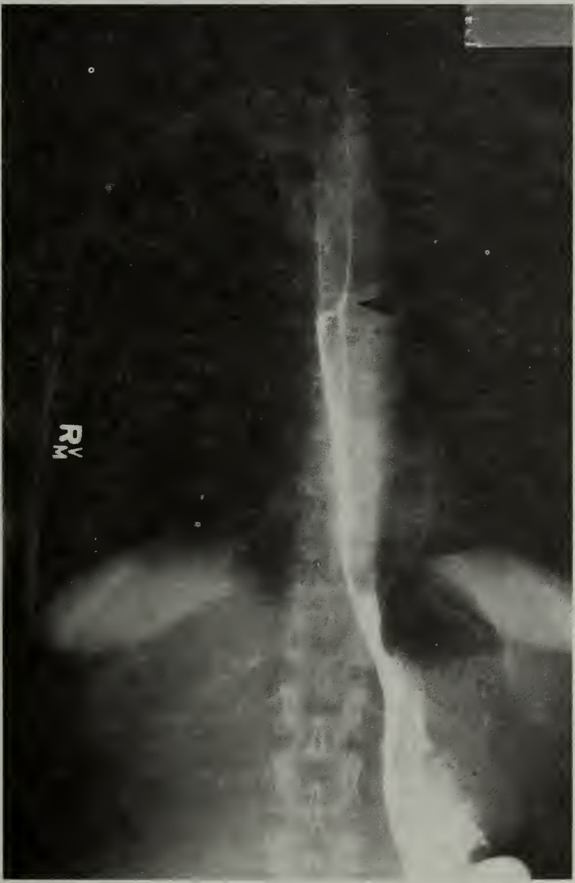

Figure 5
Follow-up barium swallow showing the prosthesis in place in the upper esophagus (proximal and distal extent of prosthesis indicated by arrows).

effective way of palliating these patients. Performed correctly, it has a low incidence of morbidity and mortality.[5, 10-13] It allows maintenance of a normal oro-gastric pathway, and depending on the internal diameter of the prosthesis, it allows the patient to resume soft, semi-solid or even a regular diet. Its insertion also provides a means for handling salivary secretions effectively, a problem which may arise later with progressive luminal obstruction by the tumor.

With occlusion of the fistulous connection by the prosthesis, there is no or minimal aspiration of ingested or refluxed intestinal contents. The prosthesis itself does not change the life expectancy related to the metastatic involvement of the tumor. However, successful placement does allow patients to clear the pneumonic processes more effectively thus, in many cases, extending survival.[14] It is this complication of infection and not the tumor itself which has been shown to be the most likely cause of death.[9] Moreover, this procedure allows the patient to remain comfortably outside the hospital during this difficult time of life.

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Recognition and Management of Umbilical Lesions in Infancy

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ABSTRACT—Proper recognition and management of umbilical lesions presenting in the newborn period will prevent long term morbidity and potential lethal newborn sepsis. Important features which aid in the diagnosis are described. Infant surgery requires a thorough understanding of embryology and attention to details of pre- and post-operative care.

Closure of the fascia and soft tissue around the umbilicus includes a series of complex embryologic events involving the differentiation of abdominal wall musculature as well as its visceral contents. Neglected or misdiagnosed umbilical anomalies in a neonate may progress to suppurative involvement of either the genitourinary, gastrointestinal tract or hepatoportal circulation. The report reviews important clinical features in the recognition and management of disorders of the umbilicus in the neonate and infant.

Embryology

At approximately 27 days post-gestation the midgut of the embryo undergoes elongation and herniation through the umbilical foramen. This portion of the intestinal tract includes distal duodenum to left transverse colon. Initially seen as a single intestinal loop, communication with the yolk sac is maintained by the vitelline or omphalo mesenteric duct. This remnant may be recognized in the fully developed small bowel as a Meckel's diverticulum.

The proximal and distal ends of the embryonic intestinal loop become fixed to the posterior abdominal wall while the continued elongation of the midgut renders the abdominal cavity temporarily inadequate. Herniation of viscera continues into the extra coelomic cavity through the umbilical cord during the sixth to seventh weeks of gestational development.

Rotational fixation of the duodenum and colon around the superior mesenteric artery begins during the period of maximum growth of the midgut. With reduced growth of the liver and progressive enlargement of the abdominal cavity the loops of midgut begin to return from the extraabdominal position by the tenth week of gestation.[1]

During this active period of 30 to 40 days of intestinal development remnants of the vitelline duct disappear, intestines returned to the abdominal cavity through the umbilical foramen and the midgut undergo axial rotation around the superior mesenteric artery and become fixated to the posterior peritoneal cavity.

Interruption of this complex period of intestinal growth produce severe and occasionally fatal malformations. Failure of the viscera to return to the abdominal cavity will produce such major abdominal wall defects as an omphalocele or gastrochisis. Incomplete intestinal rotation with midgut volvulus around the superior mesenteric artery may produce extensive infarction of the small and large bowel. The more obscure defects producing less emergent lesions associated with the umbilicus will be discussed along with their recognition and treatment.

Congenital Defects of Fascial Closure

Large abdominal wall defects, i.e., omphalocele and gastrochisis of the newborn require meticulous preoperative fluid resuscitation and surgical repair. These major congenital anomalies are separate clinical entities from the material reviewed in this report and will not be discussed.[2]

Umbilical cord hernias of the neonate are occasionally classified as small omphaloceles.[3] Unlike the larger abdominal wall defects, however, the rectus muscles of an infant with a cord hernia are midline and

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normally attached to the chest wall and pelvis. Associated congenital defects rarely occur simultaneously with this anomaly. The small intestine may be seen herniating through a small fascial defect at the base of a narrow neck umbilical cord (Figure 1). The enveloping membrane is comprised of amnion and peritoneum with interposed Warton's jelly. The hernia sac is small and rarely interferes with the infant's progression through the pelvic inlet and vaginal canal. Care must be used to keep the enveloping membrane intact and avoid intestinal injury by placing an umbilical clamp too proximal on the cord remnant.

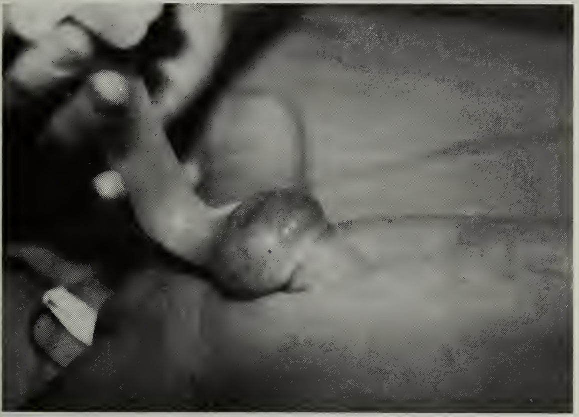

Figure 1
Cord hernia: Eviscerated small bowel is seen through enveloping membrane.

Cord hernias should only be reduced with the infant properly anesthesized and the abdominal wall musculature relaxed. The residual membrane should be completely excised and the viscera carefully reinserted through the small fascial defect. A persistent omphalomesenteric remnant may remain attached to the wall of the sac and require excision with small bowel resection. Unlike the larger abdominal wall defects, fascial and soft tissue closure are easily completed without tension.

Umbilical hernias of infants are the most frequently diagnosed defect of umbilical cord development (Figure 2). The umbilical foramen is felt to be a defect of the linea alba. Post natal obliteration of the umbilical ring occurs by proliferation of lateral connective tissue plates from the cord and contraction of linea alba and rectus muscle fascia in response to mechanical stress. They are evident in the first several weeks of infancy and appear to enlarge as the skin and subcutaneous tissue stretch with activity and crying. During the first three to four years of life spontaneous closure may be as high as 85%. There is a familial incidence and apparent predilection among blacks, premature and low birth weight infants.[4] Associated malformations include thyroid dysgenesis, trisomy 13, 18, and 21, Hurler's and Beckwith Syndrome.[5]

An effort should be made to differentiate an umbilical hernia from the fascial defect found with supra-umbilical herniaes. During careful examination, a septated ridge can be felt along the superior margin of the umbilicus separating the two anatomic areas. Supra-umbilical hernias are fascial defects of the linea alba, seldom enlarge to any significant size as that seen with umbilical hernias and will not resolve without surgical closure.

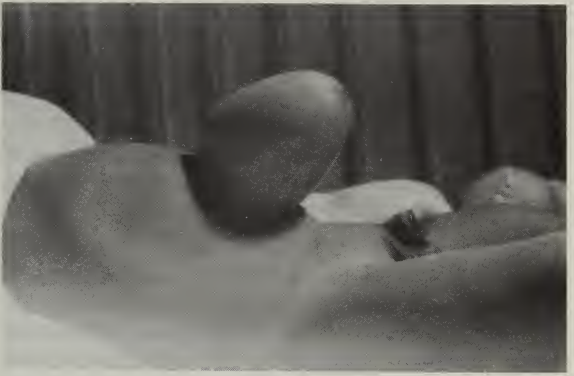

Figure 2
Umbilical hernia: Central fascial defect allows free herniation of intraperitoneal contents.

Once the diagnosis of an umbilical hernia has been made, there should be a thorough discussion and planning with the parents. Risks of incarceration or strangulation of intestinal viscera are minimal, and, therefore, not an indication of early surgical repair.

Exceptionally large umbilical hernias may pose difficulties in keeping diapers in place, produce abdominal colic or constipation and justify repair in late infancy (Figure 3). Parents should be advised that whereas the fascial defect remains fixed, the overlying skin stretches in response to increased intraabdominal pressure and appears to enlarge. Since there are no accurate determinants of size or shape which will predict spontaneous closure, elective surgery should be withheld until age 3 to 5 years.[6] Contributing to fascial closure is the development of upright posture, ambulation and the gradual strengthening of the abdominal rectus muscles.

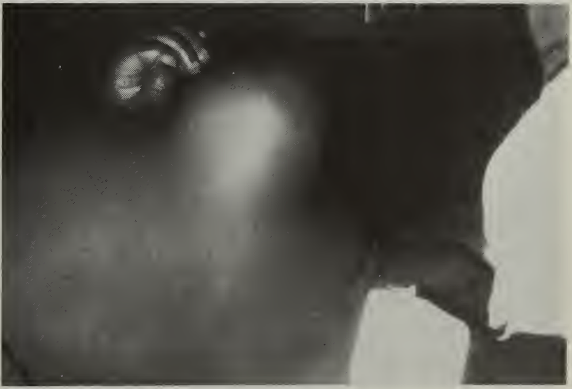

Figure 3
Giant umbilical hernia: Large fascial defect and hernia sac justify closure in infancy.

Children in good health may undergo surgical repair in an ambulatory surgical unit. General inhalation anesthesia is required to obtain adequate abdominal wall relaxation. A small compression dressing applied for 5 to 7 days will reduce the risk of a subcutaneous hematoma. Complications of surgical repair also include hemoperitoneum, ileus and wound infection with suture granuloma formation.

Omphalitis or infection of the cord remnant occurs most frequently in the granulation tissue beneath the stump and surrounding soft tissue. Immediate application of antiseptic solutions to the newborn umbilical cord and careful postnatal care have been important steps in preventative pediatric medicine. The most common infectious organisms are staphococcus aureus, streptococcus and Ecoli. Evidence of surrounding erythema or purulent discharge requires bacteriologic culture and immediate specific systemic antibiotic therapy.[7]

Spreading infection of the cord may progress along the lumen of the umbilical arteries or vein. Organisms may be introduced via catheterization techniques of the umbilicus during intensive care monitoring of premature or seriously ill infants. Pelvic lymphadenitis and abscess formation may follow the insertion of an indwelling arterial line. Ascending infection via the umbilical vein and ductus venosis may lead to suppurative thrombophlebitis and obliteration of the portal vein. Subsequent recanalization will lead to cavenous transformation of the portal vein and associated portal hypertension in later childhood.

Localized abscess formation of pelvic, inguinal lymph node or umbilical vein requiring incision and drainage procedures which fail to respond to local treatment or systemic antibiotic may indicate the presence of a combined immunologic deficiency in the newborn infant.

Disorder of Umbilical Cord Separation

Retained Umbilical Stalk: The umbilical cord that fails to atrophy and separate after 12 to 14 days of life should be viewed as suspicious. The base and surrounding soft tissue of the abdominal wall should be carefully inspected to exclude omphalitis. Large thickened umbilical stalks may contain ectopic viscera or omphalomesenteric remnants. Any large remnant at 3 to 4 weeks of age should be explored in the operating room under general anesthesia. Blind ligation of such an umbilical cord may lead to occult visceral perforation

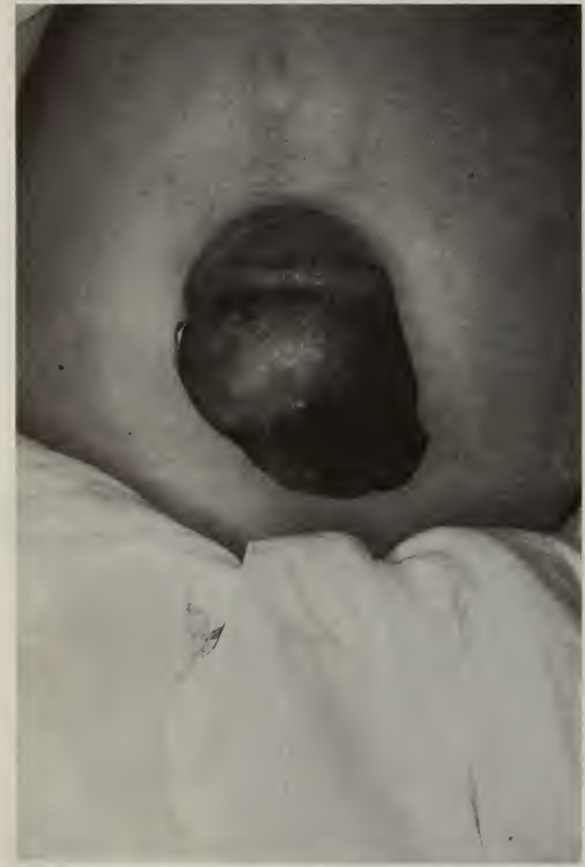

Figure 4
Retained umbilical stalk: Bulbous remnant contained ectopic liver and patent omphalo-mesenteric duct.

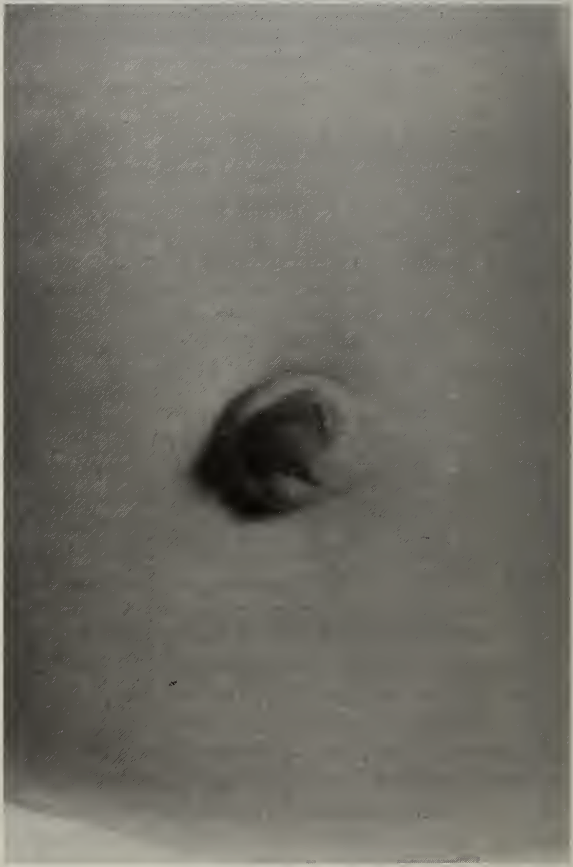

Figure 5
Umbilical polyp: Protruding cherry red mass may be ectopic intestinal mucosa. Histologic exam of excised specimen is required.

or obstruction. Such a defect is illustrated in Figure 4 in which ectopic liver and a patent omphalomesenteric duct were found at exploration.

Chronic Umbilical Drainage: Umbilical polyps or ectopic intestinal mucosa presenting as a small cherry red mass in the base of the umbilicus are a common cause of chronic serous drainage (Figure 5). Frequently the surrounding abdominal wall will become maserated and the umbilicus secondarily infected with a heavy build-up of exudate. Occasional ectopic pancreatic or gastric mucosa will produce severe local cutaneous irritation.

In the absence of drainage suggestive of urine or gastrointestinal content, simple cauterization by the application of silver nitrate may irradicate the granuloma formation. Persistent discharge after one or two such treatments is suggestive of persistent ectopic intestinal mucosa and umbilical exploration is indicated.

Persistent Omphalo-mesenteric Duct: Persistent greenish brown discharge from the umbilicus is characteristic of a patent omphalo-mesenteric cutaneous fistula. There is a small protrusion of mucous membrane which will be seen if the skin of the umbilicus is elevated and separated (Figure 6). The diagnosis of enteric fistula is substantiated by the injection of contrast material via a #3 or #5 feeding tube inserted into the fistulas tract.

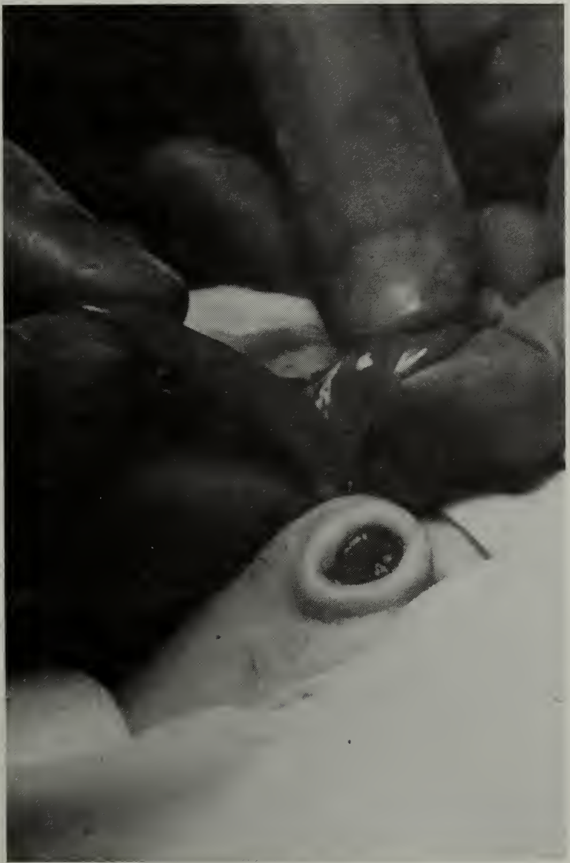

Figure 6
Omphalo-mesenteric duct: Protruding mucosa in base of umbilicus is connected to omphalo-mesenteric remnant.

If the anomaly presents as an acutely infected soft tissue infection, cultures should be obtained when the abscess is incised and drained. Elective excision should be undertaken once local infection has been contained. If the duct sinus is limited to the subumbilical region, removal may be possible without formal laparotomy. If there should be any doubt concerning the completeness of removal, laparotomy and thorough exploration of the terminal ileum must be performed.

Patent Urachus: Just as fecal material from the umbilicus is diagnostic of enteric communication, clear fluid discharge may suggest patency of the urachal remnant with the dome of the urinary bladder (Figure 7). Retrograde contrast injection should be performed only after any inflammatory process has been controlled with systemic antibiotic therapy.

Occasionally an infra-umbilical mass may be palpated in association with chronic umbilical drainage. Direct pressure on the mass may cause increased fluid

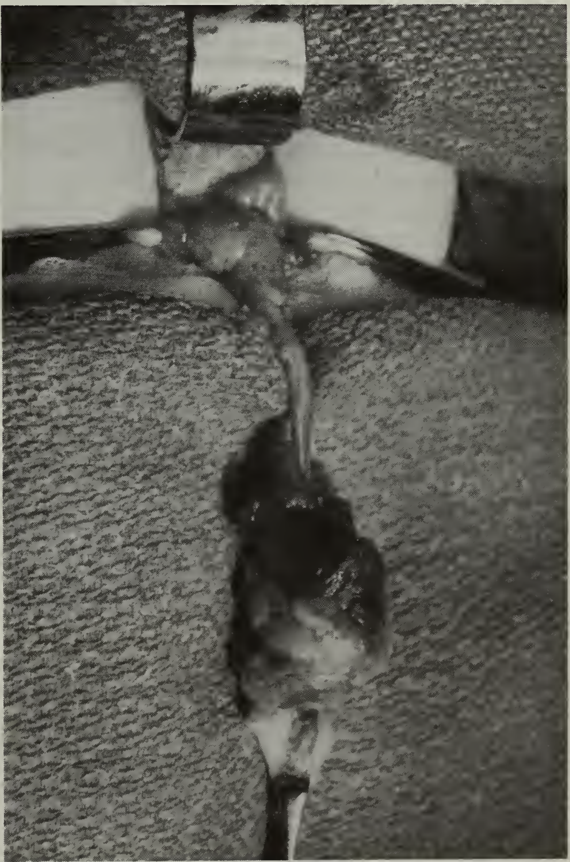

Figure 7
Patent Urachus: Communication between the excised umbilical specimen and dome of the bladder.

flow out the sinus tract. Retrograde injection may demonstrate either a localized cystic cavity or communication with a urinary bladder. Extra peritoneal removal is performed once any inflammatory process is controlled.[8]

Umbilical Inclusion Cysts: Small whitish progressively enlarging masses arising from the base of the umbilicus are characteristic of epithelial inclusion cysts. While these lesions are superficial complete excision is necessary to avoid recurrence.

Tumors of the Umbilicus: Neoplastic growth of the umbilicus and umbilical area is rare in infants and children and usually benign. Capillary hemangiomas, congenital arteriovenous malformation easily recognizable by the flattened strawberry appearance involute spontaneously between ages 1½ to 3 years of age. Desmoid or fibromatous tumors often arise from fascial tissue adjacent to the umbilical ring and require complete excision to avoid recurrence.

Malignant tumors of the umbilical area are rare in childhood. Reports of sarcomas or of adenocarcinoma of a retained urachal remnant stresses the need for early and accurate diagnosis and treatment.[6]

While most anomalies or infections of the infant's umbilical cord are minor and self limited using systemic antibiotic therapy, clinicians treating these disorders must recall the complex embryologic activity that takes place prior to umbilical closure and postnatal cord separation. Early treatment of these disorders will reduce the risk of systemic infection and minimize infant morbidity.

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Intravascular Leiomyomatosis of the Uterus

A Case Report

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ABSTRACT—A case of intravascular leiomyomatosis (IVL) of the uterus with intracardiac spread is reported. The literature on the subject is reviewed and compared with the findings in the case presented. The entities which must be differentiated from IVL are discussed.

Introduction

Intravascular leiomyomatosis (IVL) is a rare uterine tumor of which fewer than 100 cases have been reported. It is characterized by the proliferation of histologically benign smooth muscle within the uterine and pelvic blood vessels. The German literature contains four autopsy reports of IVL with extension into the heart via the inferior vena cava.[1-4] Three cases of intracardiac spread of IVL with successful surgical excision have been published in the American literature.[5-7] The purpose of this report is to present an additional case with intracardiac extension in which the presence of calcification in the tumor on the preoperative venogram was also demonstrated.

Case Report

A 62-year-old Caucasian woman with known mitral valve disease entered the Hospital of St. Raphael because of severe congestive heart failure. Physical examination revealed an irregular heart rhythm, bibasilar rales, a right ventricular heave, loud S1 and P2 and a systolic murmur at the apex. The abdomen and extremities were unremarkable. The EKG demonstrated atrial fibrillation. The echocardiogram disclosed a mass arising from the inferior vena cava and extending into the right atrium. An inferior vena cavogram confirmed

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the presence of this mass and showed it to be focally calcified (Figure 1). Cardiac catheterization revealed significant mitral stenosis, mild mitral regurgitation and severe coronary artery disease involving the right coronary artery and the marginal branch of the left circumflex coronary artery. The patient was taken to the operating room and the right atrium was explored.

A cylindrical mass extending from the inferior vena cava into the right atrium was resected. The base of the mass could not be isolated or removed, but 10 cm. of the tumor was successfully resected. In addition, the right coronary artery and the marginal branch of the left circumflex coronary artery were grafted, and the mitral valve was replaced with a Carpenter-Edwards porcine prosthesis. Postoperatively, the patient developed a pericardial effusion, confirmed by an echocardiogram. This was treated with indomethacin and prednisone, and the patient was discharged on Coumadin.

Four months later, she was readmitted for elective removal of the remainder of the inferior vena caval tumor and total adbominal hysterectomy. Physical examination was unremarkable except for atrial fibrillation. She was placed on miniheparin, and an exploratory laparotomy was performed. The right ovarian vein was filled with a calcific, rubbery myomatous lesion through its entire length, up to its insertion into the midportion of the inferior vena cava, below the right renal vein. A palpable nodular mass was free within the inferior vena cava, extending 6 cm. proximal to the point of insertion of the right ovarian vein. Resection of the right ovarian vein from its insertion point into the inferior vena cava was accomplished. A button of inferior vena cava was excised, and the intracaval portion of the tumor was removed *in toto.* There was an irregular mass of myomatous material in the venous structures of the right broad ligament, from the cornual region to the pelvic sidewall, and down into the right uterosacral region. A total abdominal hysterectomy, bilateral salpingo-oophorectomy and excision of the right ovarian vein were performed. The patient was well and free of evidence of disease six months after the operation.

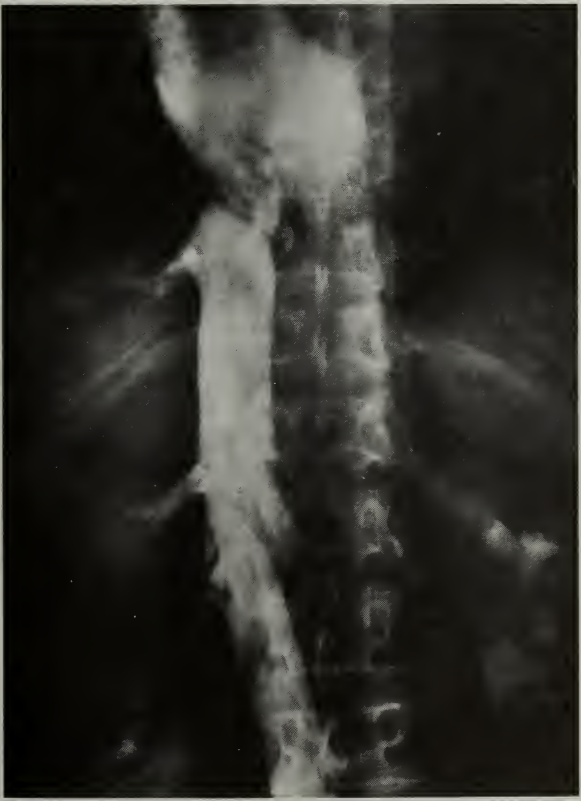

Figure 1
Inferior vena cavogram demonstrating an elongated mass in the inferior vena cava and right atrium.

Pathological Examination

The specimen received from the first operation was a segment of white, firm tissue measuring 10 cm. in length and 1.5 cm. at its greatest diameter. Focal calcification was noted. Microscopic study disclosed a benign leiomyoma consistent with IVL. Also received was a segment of mitral valve showing fibrosis.

The uterus, resected at the time of the second operation, weighed 200 grams. Extending through the right parametrial and paratubal regions were multiple rubbery, worm-like structures which also involved the right pampiniform plexus and the attached 4-cm-long ovarian vein. The right uterine wall contained numerous white, whorled nodules, measuring 0.3-3.0 cm. in diameter, many of which were surrounded by what appeared to be vessel walls. A 1-cm sessile polyp was present on the posterior endometrium.

The portion obtained from the inferior vena cava was an elongated segment of white-pink, rubbery, focally calcified tissue measuring 6.0 × 1.0 × 0.6 cm.

Microscopically, the uterus contained multifocal tubular, as well as lobular, IVL (Figure 2). The myometrium and adjacent parauterine veins, the veins in the right broad ligament and around the right fallopian tube, and the right ovarian vein were involved. The tumor was composed predominantly of collagen intermixed with fascicles of smooth muscle cells without atypia. Most of the tumor present outside the uterus was surrounded by endothelium-lined vasculature, but this was true only for focal areas of the intramyometrial portion of the neoplasm. The endometrium contained an endometrial polyp without atypia. The cervix, tubes and ovaries were not remarkable.

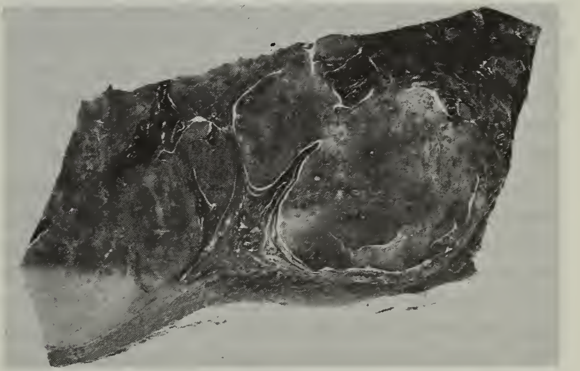

Figure 2
Cross section of the uterine wall containing multifocal intravascular leiomyomata.

The tumor retrieved from the lumen of the inferior vena cava was intravenous leiomyoma, morphologically identical to the inferior vena caval and intracardiac tumor resected at the time of the first operation.

Discussion

Reports about IVL can be found in the German literature encompassing a period of 27 years, from

1903 to 1930. Sixteen acceptable cases were described in that period. A lapse of 27 years followed, during which time no mention was made of this entity. In 1959, the first case reported in the English language appeared in the American literature, authored by Marshall and Morris.[8] Since then, fewer than 100 cases of this rare neoplasm have been published.[5-7, 9-15]

Knauer,[16] with his detailed description of four cases in 1903, may be considered the pioneer in the study of IVL. The uteri of all four cases showed ordinary leiomyomata, and polypoid cords and nodules were present in numerous veins of the uteri and broad ligaments, some of them attached to the vessel walls. Microscopically, the intravenous structures were composed of histologically benign smooth muscle bundles, which at some points were continuous with the tunica media and the surrounding vessels. In no case did the proliferation of muscle invade through the tunica adventitia. From these observations Knauer concluded that IVL represented a smooth muscle tumor arising from the vein wall.

Sitzenfrey,[17] in 1911, reported three cases of benign uterine myomata associated with tumor strands in the veins of the uteri and broad ligaments. He observed that the intravascular masses were in continuity with the leiomyomata in the myometrium. He concluded that IVL results from vascular invasion by an otherwise "typical" leiomyoma.

In 1961, Harper and Scully[9] presented four cases which exhibited features consistent with both Knauer's and Sitzenfrey's observations. It is not yet known for certain which of these two observations correctly explains the origin of the tumor. Indeed, both possibilities exist. Harper and Scully's paper, along with one by Norris and Parmley[5] in 1975, established the definition of IVL as extension of grossly visible benign smooth muscle into vascular spaces or growth of microscopic fragments of benign smooth muscle into the vessels beyond the confines of a leiomyoma.

In our case, there was microscopic evidence of intravascular invasion, as in the vast majority of previously recorded cases. Although most of the growth outside the uterus was completely surrounded by endothelium-lined vasculature, the intrauterine portion of the tumor was surrounded only focally by vasculature. Our case also showed a moderate amount of vessels, low cellularity, no mitoses or atypia, and extensive hyaline degeneration. As the growth approached the heart, its cellularity diminished, and its degree of hyaline degeneration and abundance of elastic fibers increased. This same pattern was described by Petrow and Rozynek[4] in an autopsy report. An interesting feature of the case is the presence of foci of calcification in the segments of neoplasm situated within the right ovarian vein, inferior vena cava and right atrium. Petrow and Rozynek,[4] in their aforementioned autopsy report, noted calcium salts encrusted in endometrium near the intramyometrial portions of the tumor, but to our knowledge, calcification has never been identified in the extrauterine portions of the tumor.

These features—lack of atypia, presence of hyaline degeneration and presence of calcification—are commonly observed in "typical" uterine leiomyomas. The fact that they are more pronounced in areas away from the uterus is surprising, in light of the good vascular support that these portions of tumor received. The identification of a calcified mass on the inferior vena cavogram led to the consideration of IVL in the differential diagnosis, along with organizing thrombus, renal neoplasm, uterine leiomyosarcoma and primary tumor of the inferior vena cava.

Three cases of IVL with extension into the right atrium via the inferior vena cava have been published in the American literature.[5-7] In two of them,[6, 7] IVL was diagnosed after routine total hysterectomy for uterine "fibroids." Subsequently, symptoms of obstruction of the right side of the heart developed, and angiographic studies demonstrated the intracardiac portion of the neoplasm. Both patients underwent open-heart surgery with removal of the intracardiac growth. They have been free of cardiac symptoms ever since (one has been followed for one year postoperatively, and there are no other data available on the other), though angiographic and echocardiographic studies have demonstrated the presence of residual tumor in the inferior vena cava. The third case[5] had a tumor removed from the inferior vena cava and right atrium and, six weeks later, a subtotal abdominal hysterectomy and bilateral salpingo-oophorectomy were performed in light of the diagnosis of IVL made on the intracardiac specimen. The patient is alive five years after the operation, with residual pelvic tumor.

In our case, the initial event was severe mitral valvular disease, with the diagnosis of IVL confirmed on the frozen section specimen obtained upon surgical exploration of the right atrium. Four months later, removal of the remainder of the inferior vena caval tumor, excision of the right ovarian vein, total abdominal hysterectomy and bilateral salpingo-oophorectomy were performed. The patient showed no evidence of disease six months after the operation.

IVL may be confused with entities such as benign metastasizing leiomyoma, endolymphatic stromal myosis, stromal sarcoma, leiomyosarcoma and leiomyomatosis peritonealis disseminata.

Basically, benign metastasizing leiomyoma is represented by the presence of benign uterine leiomyoma, in association with a benign smooth muscle tumor within the parenchyma of a distant organ, in a site distant from the uterus. The essential point in the differential diagnosis is that in IVL, the neoplasm is confined to vessels, whereas in benign metastasizing leiomyoma, the tumor shows no relation to vascular channels.[19-21]

Endolymphatic stromal myosis is characterized by the presence of invasion of vascular spaces by stromal cells rather than smooth muscle cells. Stromal sarcoma, by definition, contains greater than 10 mitoses/10 high power fields. In some cases, the distinction between stromal cells and smooth muscle cells is not readily apparent, and special histochemical stains such as Masson's trichrome and PTAH might be needed to differentiate smooth muscle fibers from stromal cells. These distinctions are of practical significance, since IVL is essentially a benign condition, whereas low-grade stromal sarcoma represents a potentially malignant condition.[5, 14]

Leiomyosarcoma usually is not a difficult diagnostic problem, due to the degree of anaplasia and the high mitotic count.[5]

Leiomyomatosis peritonealis disseminata is defined by the presence of nodules of benign-appearing smooth muscle cells on serosal surfaces.[18]

We conclude that IVL with intracardiac spread, through a rare complication of a rare uterine tumor, should be kept in mind when dealing with inferior vena caval or intracardiac masses in adult females. Patients with IVL diagnosed by hysterectomy should be evaluated to exclude involvement of the heart or inferior vena cava. Clinicians and pathologists should be familiar with this mode of growth; correct diagnosis of IVL has allowed successful surgical intervention in several cases like that of our patient.

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Gastric Adenocarcinoma

Long Term Survival Following Methotrexate Treatment

ALAN M. GEWIRTZ AND JOHN M. KIRKWOOD

ABSTRACT—Current therapeutic modalities have had little impact on the outcome on gastric carcinoma. Towards this end we report the case of a 47-year-old female who had a dramatic response and long term palliation of over five years duration to methotrexate, a drug little used for the treatment of this disease. Our experience suggests that methotrexate deserves further evaluation in the treatment of gastric adenocarcinoma.

Introduction

Adenocarcinoma of the stomach continues to decline in incidence in the United States, but 23,000 cases will be newly diagnosed and 14,000 people will die of the disease this year. In other parts of the world, especially Japan, Chile and Czechoslovakia, it is more common and accounts for an increasing source of cancer mortality.[1]

The natural history of inoperable adenocarcinoma of the stomach is such that death usually occurs within four months of presentation.[2,3] Palliative procedures such as gastrostomy or gastroenterostomy have contributed little to survival. Aggressive surgery is the only curative modality, but only about half of all operated patients are candidates for such surgery. The median survival in this subset of patients is 10 to 17 months while 5 year survival is 8-10% in collected series of 1,000 or more cases each.[3-8]

Radiotherapy and chemotherapy have historically added little survival advantage to patients with gastric carcinoma. However, recent reports have suggested that chemotherapy may add to survival for some patients.[9] In this regard, we report here a patient who survived eight years with widely metastatic gastric carcinoma and who experienced a protracted interval of disease control with an antimetabolite not currently utilized in this disease: Methotrexate.

Case Report

L.Y. was a 47-year-old married white female, with no significant previous medical history, who presented to her private physician in June of 1972 with dyspepsia, diarrhea and a 15 pound weight loss. Initial physical examination was normal and diagnostic studies included a normal gall bladder and upper gastrointestinal X-ray series. Two months later physical exam disclosed a 3 cm mass in the upper right lower quadrant of the abdomen. Laparotomy performed 9/28/72 revealed a right ovarian mass attached to the adjacent soft tissues. Biopsy revealed poorly differentiated signet ring adenocarcinoma, and peritoneal washings demonstrated similar tumor cells. Right salpingoophorectomy was performed and the patient was referred to Yale-New Haven Hospital for further evaluation. Repeated upper gastrointestinal contrast studies, liver-spleen scan, sigmoidoscopy and gastric washings were normal. A barium enema suggested mucosal edema of the sigmoid colon. Random gastric biopsies were done to rule out possible Krukenberg tumor in fact revealed signet ring adenocarcinoma. The diagnosis of gastric adenocarcinoma with metastases to the right ovary and peritoneum was made. Five-fluorouracil was commenced at 425 mg/M^2 weekly after an initial loading dose of 1400 mg/M^2.

The patient did well without evident disease progression, until eight months of therapy when a 5 cm^2 mass became palpable in the right mid-abdomen. A routine liver-spleen scan revealed a 3 cm perfusion defect. Upper gastrointestinal series demonstrated pathological hypomotility. Five-FU was discontinued of high-dose methotrexate was begun at a dose of 250 mg/M^2/week iv.v and escalated to 500 mg/M^2 per week utilizing leucovorin rescue at a dose of 10 mg/M^2 p.o. every 6 hours, X8 beginning 24 hours after MTX administration. Gradual decrease in the size of the abdominal mass was noted. Liver-spleen scan remained stable. Complete disappearance of the palpable abdominal mass was noted as methotrexate was escalated to 1 gm/M^2/week, by the 6th month of therapy.

Respiratory symptoms of cough, exertional dyspnea, and low grade fever developed in May 1974 during her ninth month of Methotrexate therapy. A chest X-ray was normal. Symptoms persisted despite Tetracycline administration, and in July 1974, chest X-ray revealed bilateral reticulo-nodular infiltrates. An open lung biopsy revealed histologic changes of interstitial pneumonia, consistent with Methotrexate hypersensitivity pneumonitis. Methotrexate was discontinued and oral Prednisone was instituted for one month at a daily dose of 60 mg. Symptoms resolved rapidly and chest

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X-ray cleared. Prednisone was tapered and in September 1974, Methotrexate was resumed without problem at a dose of 240 mg/M^2/week with leucovorin rescue.

The patient remained clinically well, working full-time with the sole complaint of occasional diarrhea. Restaging studies in May 1975, showed normal serum chemistries, liver-spleen scan, upper gastrointestinal series and liver biopsy. Random endoscopic gastric biopsy documented persistent signet ring adenocarcinoma diffusely invading the gastric wall (Figure 1). Methotrexate was escalated to 1 gm/M^2/week with leucovorin rescue. Chest X-ray, upper gastrointestinal series, and ACTA scan remained normal through January 1977. In July 1977, a mass was again palpated in the right periumbilical area and contrast revealed narrowing of the transverse colon and fixation of the cecum. Methotrexate dosage was escalated to 3 gm/M^2 weekly with leucovorin rescue, achieving $1\text{-}2.6 \times 10^{-6}$M serum levels at 24 hours. The patient remained clinically well and continued to work full-time. No significant change in the size of the mass was noted and the patient requested treatment frequency be reduced to every two weeks in August 1978. Liver-spleen scan and abdominal echograms in January 1979 revealed the liver to be free of disease, but masses in the right and left lower quadrants were documented with ascites. Despite intensified weekly therapy, the masses increased in size by repeat abdominal echo examination. Methotrexate was therefore discontinued in April 1979 after a total dose of 406.59 gm, delivered over five years and eight months. Five-FU, Adriamycin and Mitomycin-C [10] were administered with minimal regression of abdominal masses. Escalated doses of Adriamycin were subsequently given with Mitomycin C, but disease progressed. She developed upper gastrointestinal bleeding after two episodes of pneumonia and expired November 12, 1979.

Post-mortem examination revealed five liters of ascites, diffuse invasion of the stomach, and adjacent adherent bowel. The liver contained multiple foci of disease, and the left ovary was grossly involved with tumor. Lungs revealed focal bilateral hemorrhagic necrotizing pneumonia, and focal interstitial scarring.

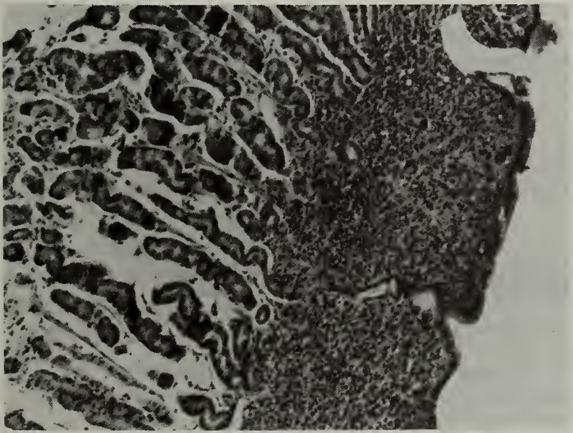

Figure 1
Gastric biopsy showing persistant signet ring adenocarcinoma.

Discussion

A review of the literature of the past 50 years reveals that the natural history of adenocarcinoma of the stomach has not changed significantly.[11-13] The disease still presents insidiously so that clinical presentation in advanced stage is still the rule. Not unexpectedly, survival in operated cases is also unchanged, when compared to Parsons' 1933 report of a median survival of 15.4 months and a five year survival of 24.3%.[11]

Chemotherapy, although this may not be changing, has had virtually no impact on survival of this disease.[9] Of the single agents available, 5-fluorouracil (5-FU), BCNU, Mitomycin-C and Adriamycin have been found to be the most active.[14] The first three have response rates of 20-25% which last from four to five months on average.[15-17] Adriamycin was initially reported to have a response rate of 50%[17,18] but recent GITSG trials have reported a 21% response rate with Adriamycin alone.[19]

This patient's case was unusual in that she had an effective and prolonged response to an agent that is rarely used in the treatment of adenocarcinoma of the stomach: i.e., Methotrexate. The drug is used so infrequently that it was listed as inevaluable by Wasserman, et al, in their tabular analysis of the chemotherapy of solid tumors.[15] Moertel does not refer to the agent in his recent review of the management of advanced gastrointestinal cancer,[16] and Comis and Carter in their review of the chemotherapy of gastric cancer cite only two patients who received low dose Methotrexate, neither of whom responded.[12] Isacoff, in a phase II clinical trial investigating the activity of high dose MTX on various tumors noted no response among three patients with gastric carcinoma treated at doses of 6 grams per course for an average of 1.7 courses with leucovorin rescue.[20] The length and quality of survival in our index case must then either be attributed to response to her chemotherapy or to very indolent, though widely metastatic, disease. We believe the former much more likely and in support of this thesis cite an analysis of 903 cases of gastric carcinoma studies in the Veterans Administration Hospital system which showed that gastric carcinoma could be broken down into three groups: (i) those who could be cured, a group that represented about 26% of operated patients identified on the basis of absence of blood vessel, serosal, or lymph node invasion; (ii) incurable patients with indolent disease where median survival was 25 months; and (iii) incurable patients with aggressive/disseminated disease whose median survival was eight months and who tended to have symptom duration of less than six months and greater weight loss. None of these groups was identifiable on histologic grounds.[21] Our patient from the outset appears to have fallen into the third group, with symptoms of less than six months' duration, weight loss of 15 pounds and wide dissemination at presentation.

Combination chemotherapy with Adriamycin, 5-Fluorouracil and either Mitomycin-C or Methyl CNNU may be changing the impact of chemotherapy on this disease. Initial response rates of greater than 45% lasting more than 12 months are being reported from several institutions.[22,23,19] Even if these enthusiastic reports hold up though other agents, either alone or in combination, will be needed to treat the bulk of patients who sooner or later will relapse. Methotrexate has not been systematically evaluated in this regard, but based upon this experience it perhaps should be. We stress, however, that the ultimate role of methotrexate in high or low doses needs to be established by prospective trials such as those being conducted by GITSG. The value of case reports such as the present one however is in suggesting such new trials to cooperative experimental groups or university-based cancer unless for controlled prospective clinical trials.

Parenthetically, this case also illustrates the face that distant disease at presentation, though ominous, does not preclude lone term survival and demands aggressive treatment.

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Insulin Pump Implants Pass First Test

An implantable insulin pump may simplify therapy routines and improve treatment for some type II diabetes patients, according to a preliminary report in *The New England Journal of Medicine* (1982; 307:265-70). Researchers from the University of Minnesota and Massachusetts General Hospital studied the effectiveness of the device on five adult, nonobese, insulin-requiring diabetics for periods ranging from 5.5 to 9.7 months. In each case, the continuous intravenous insulin infusion resulted in improved glycemia control and a significant reduction in plasma triglyceride concentrations. About the size of a hockey puck, the pumps were implanted in the abdomen under local anesthesia, and remained in place throughout the study, without mishap. Moreover, patients reported a subjective decrease in the frequency and severity of hypoglycemic reactions. And with fewer dietary restrictions and freedom from multiple-dose injections, none of the patients reported a desire to return to conventional therapy.

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Important Advances in Clinical Medicine

Epitomes of Progress—Pediatrics

Undescended Testes—When to Treat

Normal testes, which develop from the ventral border of the urogenital ridge, descend retroperitoneally and traverse the inguinal canal to reside in the base of the scrotum. The left testis descends earlier than the right and is normally a bit lower. When testicular descent is incomplete, there is risk of decreased spermatogenesis and malignant change in the testes.

Basic to therapy is the differentiation between incomplete descent of a testis and one that is retractile. If a testis can be manipulated into the scrotum or is in the scrotum part of the time, therapy is unnecessary. In some boys the cremaster reflex is more active than usual, causing the testes to reside in the inguinal canal most of the time. When a boy approaches puberty, retractile testis will stay in the scrotum.

If a testis cannot be manipulated into the scrotum, it is abnormal and should be treated. Medical and surgical therapy are both currently acceptable and in some cases both may be used.

Approximately 30 percent of premature infants, 3 percent of full-term infants and 0.3 percent of adults will have an undescended testis. These statistics indicate that testicular descent does occur in some patients after birth.

At approximately two years of age, patients with an undescended testis will have less than normal spermatogonia count and the tubular diameters of the testes will be below normal. Unless the patient has an associated hernia that is troublesome, treatment is best carried out between the ages of two and four years.

Medical therapy (chorionic gonadotropin) is more effective in patients who have bilateral undescended testes than in those who have a unilateral undescended testis. Successful testicular descent occurs in approximately 30 percent of patients with bilateral undescended testes and approximately 15 percent of patients with unilateral undescended testis. The side effects of therapy are enlargement of the phallus and rugosity of the scrotum. Many parents refuse medical therapy for their sons when informed of the side effects. If a testis remains undescended at the end of the therapy, a surgical procedure should be recommended.

When surgical therapy is advised primarily or after failure of medical therapy, orchidopexy, using the technique of creating a scrotal pouch between the scrotal skin and the tunica dartos, appears to be the best of the current operations. This procedure can be carried out in an outpatient surgical unit and requires no external fixation. Surgical therapy should be recommended if a testis has not descended by 2 years of age.

Malignant lesions of the testis are 40 times more common in patients with undescended testes than in patients whose testes have descended normally. Medical or surgical therapy does not affect the frequency of occurrence of malignant tumors; however, the diagnosis can be made earlier if the testis is in the scrotum where the tumor can be palpated. A malignant lesion will develop in approximately 1 in 1,100 patients with undescended testis, most commonly in the third decade of life. Spermatogenesis is increased by orchidopexy; however, the average sperm count in a man who has had undescended testis will be lower than normal. There appears to be an inherent abnormality in undescended testes that is not altered by medical or surgical descent.

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Treatment of Metatarsus Adductus in Infants

Metatarsus adductus or, more properly, metatarsus varus is a medial deviation of the forefoot, sometimes referred to as "skew foot" or "one third of a club foot." It generally refers to a condition in which the forefoot is supinated and adducted, while the hindfoot is in a slight valgus position.

The incidence as reported by Wynne-Davies is 1 per

1,000 live births, with afflicted females out numbering afflicted males 4 to 3. These figures may be low as they were obtained from hospital records, and this condition does not always require hospital level attention. Metatarsus varus is generally quoted as being ten times more frequent then club foot, though the incidence of club foot is also reported as 1 per 1,000 live births from the same Wynne-Davies data. There is no clear pattern of inheritance and there is no relation of incidence to intrauterine environmental factors.

Metatarsus varus may present clinically three ways—as a stiff or fixed adduction, supple or "hooked" forefoot or dynamic forefoot adduction.

In the stiff variety, always present at birth, the forefoot is extremely adducted, the foot imprint shows a high arch, the great toe is medially deviated, the medial foot is creased, the lateral foot shows a prominent fifth metatarsal base and the forefoot is not passively correctable to a neutral axis. Manual stroking of the lateral aspect of the foot while firmly holding the heel does not elicit a peroneal muscle reflex, which corrects the forefoot to neutral.

The flexible, or supple, metatarsus varus, with varying degrees of the above deformities, is passively overcorrectable; manual stroking of the lateral foot elicits spontaneous correction to neutral. This type is also usually present at birth and usually corrects spontaneously. This explains such reports as Rushforth's in which 86 percent of 130 patients were found to have normal feet without treatment at an average follow-up of 7 years. Ponseti and Becker noted that only 11.6 percent of 379 patients needed casting. A few flexible cases may stiffen and require treatment later.

The dynamic forefoot adduction group may not have a concave varus foot at rest, but will have varus forefoot on weight-bearing. In these feet, dynamic deforming forces, such as an overactive abductor hallucis or an anomalous posterior tibial insertion, may be the cause. This explains the pediatrician's shock at seeming to miss some severe adducted forefeet until the children begin to walk. These usually spontaneously improve, but may resist casting or passive correction (since the deformity is dynamic) and may need surgical muscle release if persistent into the third or fourth year.

Treatment of stiff metatarsus varus with serial casting is warranted as soon as the condition is recognized. Early orthopedic referral is prudent. All other forms of flexible metatarsus varus will usually correct spontaneously during the first three years of life. Parental stretching is not effective in a stiff foot and unnecessary in a supple foot, and, if improperly applied may produce a "Z" foot.

There is agreement that reverse-last shoes will not correct the stiff foot, and are unnecessary in the spontaneously self-correcting flexible deformity. Shoes may be of temporary assistance after casting for maintenance, though it is generally agreed that mild overcorrection is the best endpoint in casting.

The Denis-Browne bar with shoes should be reserved for varus deformity that is accompanied by severe internal tibial torsion, and probably only after 18 months to 2 years of age. The bar can actually cause an externally rotated or valgus hindfoot without correction of the forefoot adduction, resulting in a Z or so-called serpentine foot.

If stiffness persists beyond age 3 or 4 years, surgical soft tissue midfoot release or bony metatarsal osteotomy may become necessary.

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Antimicrobial Therapy for Acute Otitis Media in Children

The preferred antimicrobial agent for a child with acute otitis media must be active against *Streptococcus pneumoniae* and *Hemophilus influenzae.* Group A streptococcus and *Staphylococcus aureus* are infrequent causes of acute otitis media and need not be considered in initial therapeutic decisions. Gram-negative enteric bacilli must be considered when otitis media occurs in newborn infants, in patients with depressed immune response and those with suppurative complications of chronic otitis media.

Most antimicrobial agents effective in the treatment of otitis media can be found in significant concentrations in middle ear fluid. After administration of the agent, antimicrobial activity occurs promptly in middle ear fluid and duration is approximately the same as in serum.

Usual dosage schedules of ampicillin, amoxicillin trihydrate, cefaclor and trimethoprim-sulfamethoxazole (TMP-SMZ) produce concentrations of antimicrobial activity in middle ear fluid that are sufficient to inhibit *Streptococcus pneumoniae* and most strains of *H influenzae.* Concentrations achieved in middle ear fluid by penicillin V, the erythromycins and clindamycin hydrochloride are sufficient to inhibit *S pneumoniae* but are not adequate to inhibit most strains of *H influenzae.*

Amoxicillin or ampicillin are still the drugs of choice for initial treatment of otitis media because they are active both in vitro and in vivo against *S pneumoniae* and *H influenzae* and are less expensive than alternative regimens. The current incidence of ampicillin-resistant *H influenzae* is low, approximately 3 percent to 8 percent of cases of otitis media, and does not require a change in initial therapy. Other drugs that are satisfactory include TMP-SMZ, cefaclor and combinations of a sulfonamide and penicillin G, penicillin V, erythromycin or clindamycin. For the child who is allergic to penicillin, TMP-SMZ, cefaclor or the combination of erythromycin or clindamycin and a sulfonamide provide equivalent antimicrobial coverage.

With appropriate antimicrobial therapy, most children with acute otitis media due to one of the common bacterial pathogens feel considerably better within 48 to 72 hours. If symptoms have not lessened, the patient should be reexamined. Toxicity with persistent or recurrent fever or otalgia should prompt tympanocentesis to identify the causative organism; the appropriate antimicrobial agent may then be chosen based on results of culture of middle ear fluid. If signs persist but the child is not toxic and aspiration is not performed, the initial antimicrobial regimen should be changed to one that is effective for uncommon organisms, including β-lactamase-producing *H influenzae.* Recent studies indicate that if ampicillin or amoxicillin was initially given, then administration of TMP-SMZ, erythromycin-sulfisoxazole or cefaclor is usually successful. TMP-SMZ is probably ineffective when group A β-hemolytic streptococcus or *Staphylococcus aureus* is the causative organism.

The bacteriology of middle ear infection in children who have recurrent episodes of acute otitis media is similar to that for first episodes; the predominant pathogens are *Streptococcus pneumoniae* and nontypable strains of *H influenzae.* Thus, a child with a recurrent episode of otitis media should be treated initially with the same antimicrobial regimen as a child with a first episode of middle ear infection.

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Laboratory Aids in the Diagnosis of Testicular Torsion

Testicular torsion results in the sudden devascularization of the testicle. In most cases this condition must be differentiated from either epididymitis or torsion of the testicular appendages.

Since epididymitis is almost always associated with prostatitis, probably the easiest and most successful laboratory aid in the differential diagnosis of an acutely swollen scrotum is urine examination. If no leukocytes are seen in the first part of the voided urine specimen, the diagnosis of testicular torsion should be considered and plans made for immediate surgical exploration. If the diagnosis is in doubt, however, a Doppler ultrasonogram or a radioisotope testicular scan, or both, may be used for evaluating the blood flow to the testis. With either epididymitis or torsion of the testicular appendages, one would not expect to detect any impairment of perfusion of blood through the testes.

The Doppler ultrasonic stethoscope is a pocket-size instrument capable of picking up the vascular pulsations to the testis, the intensity of which is proportional to the magnitude of the blood flow. A sonographic recording can be obtained by connecting the Doppler stethoscope to an electrocardiogram machine or some other appropriate recording device. This means of evaluating testicular blood flow is simple, immediate and reasonably reliable.

Testicular scanning using sodium pertechnetate Tc 99m has also become an accepted technique for assessing testicular blood flow in a patient with acutely swollen scrotum. Although a recent comparative study of these two methods revealed a better correlation of the testicular scan than of the Doppler ultrasonogram with the surgical findings, a scanning camera is not available in most medical offices or emergency rooms.

It must be emphasized that testicular torsion is an emergency situation in which the diagnosis must be made rapidly and detorsion accomplished promptly. The lack of leukocytes in the urine in a male of any *age* who has a tender swollen scrotum should alert the physician to the most likely diagnosis of testicular torsion. To confirm vascular impairment to the testis, the use of either a Doppler ultrasonic stethoscope or a radioisotope testicular scan can be most helpful. Yet, though laboratory evidence of an avascular testis can be reassuring to the clinician, such evidence does little for the testis if detorsion has been delayed pending results of these studies. Only by immediate exploration and reestablishment of the testicular blood flow by detorsion can a satisfactory rate of testicular salvage be obtained.

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The Effect of DES on Male Offspring

Various complications of pregnancy, notably threatened abortion, were commonly treated with diethylstilbestrol (DES) during the 1940's through the 1960's. Prenatal exposure to DES became a cause for concern in 1971 when accumulated evidence linked clear-cell adenocarcinoma of the vagina and vaginal adenosis with the administration of DES during pregnancy to the mothers of the affected young women. Later, concern arose regarding hazards of transplacental DES on the developing male fetus.

Follow-up comparison 25 years or later on subjects involved in a double-blind study of the efficacy of DES in preventing untoward effects of pregnancy showed DES-exposed males to have a greater prevalence of epididymal cysts, hypoplastic testes or both. Of 308 males exposed to DES, 31.5 percent had epididymal cysts, hypoplastic testes or both, as compared with 7.8 percent of 307 placebo-exposed controls. Of 26 DES-exposed males with testicular hypoplasia, 17 had a history of cryptorchidism, while only 1 of 6 placebo-exposed males with testicular hypoplasia had a history of testicular maldescent. Analysis of semen of 134 males exposed to DES showed severe pathologic changes in 18 percent compared with 8 percent of 87 male controls. This finding suggests that DES exposure in utero may have an effect on male fertility.

Although there is no control study showing an increased incidence of malignant tumors among DES-exposed men, one must keep in mind the increased risk of testicular carcinoma in testes that are or were cryptorchid. Testicular carcinoma has been reported in three men who had a history of exposure to DES in utero and of cryptorchidism. There has as yet been no report of carcinoma of the prostatic utricle in men exposed to DES in utero. The prostatic utricle, the müllerian duct remnant that is homologous to the female vagina, has been found to be the site of carcinoma in older men.

In summary, administration of DES during pregnancy appears to be followed by male genital tract abnormalities that are both structural (epididymal cysts, hypoplastic testes and cryptorchidism) and functional (abnormal semen). Due to prolonged latency in expression of DES effects, it will probably be another decade or more before the question of potential malignancy in men exposed to DES in utero is answered. Additional follow-up will also give insight into the probability of subnormal fertility in males exposed to DES in utero.

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Treatment of Disseminated Herpes Infections in Newborns and Infants

Herpes simplex virus (HSV) infection of the newborn frequently results in fatal or otherwise devastating disease. The virus is usually transmitted during delivery from the maternal genital tract infected with herpes simplex virus, with HSV type 2 accounting for 85 percent of newborn HSV infections. Clinical signs appear most often between the first and second weeks of life, but may be present at birth or may not be found until the infant is a month of age. Untreated, 50 percent of all newborns with HSV infections will die and half of the survivors will be neurologically abnormal at 2 years of age. Infants with central nervous system (CNS) or disseminated disease have fatal infections in 75 percent of cases. Recently, vidarabine (adenine arabinoside) therapy administered intravenously has been shown to improve the outcome of newborns with HSV infections, mortality being significantly reduced in babies with CNS and disseminated disease from 74 percent to 38 percent. Disseminated HSV disease, however, shows less of a decrease, from 85 percent to 57 percent mortality. Most important with localized CNS disease, mortality was not only reduced from 50 percent to 10 percent, but 50 percent of infected babies were neurologically normal at 2 years with treatment.

These recent findings of the National Institute of Allergy and Infectious Disease (NIAID) Collaborative Antiviral Study Group indicate that vidarabine therapy significantly improves the outcome of newborns with HSV infections. Acyclovir (ACV, 9-(2-hydroxyethoxymethyl) guanine) is a new antiviral agent that has been shown to be effective against certain herpesvirus infections both in vitro and more recently in human studies. The substantially greater solubility of ACV, combined with its high therapeutic index and low toxicity, offers potentially important advantages over vidarabine. The NIAID is currently conducting a randomized study comparing the effect of vidarabine with ACV. The results of this study will not be known for at least two years.

Until the study is completed, a physician who suspects a case of neonatal herpes should admit the child to an intensive care hospital setting where facilities are available for caring for a critically ill infant. When possible the infant should be treated in a regional center involved in the NIAID study for management and random assignment to either ACV or vidarabine therapy. An infant in hospital in a nonstudy center intensive care unit should be treated with vidarabine. If skin vesicles are present or positive herpes cultures are available from any site in the infant, antiviral therapy should be initiated immediately, since 75 percent of infants who have cutaneous HSV will develop CNS disease. Almost 20 percent of newborns with proved HSV will not develop skin vesicles and 5 percent to 10 percent will require brain biopsy for virologic confirmation of HSV infection. Any baby excreting HSV within the first month of life should be considered in mortal danger and treated as outlined above. The prompt institution of therapy will favorably influence the outcome of an infant with proved herpetic infection.

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Campylobacter Enteritis

Campylobacter jejuni is a recent addition to the differential diagnosis of inflammatory enteritis and is already recognized as a major cause of enteritis in humans. Several recent studies indicate that *Campylobacter* can be cultured from the stools of 4 percent to 14 percent of patients with diarrhea, a larger percentage than that for either *Salmonella* or *Shigella.*

The term campylobacter is derived from Greek words meaning "curved rod." The older literature classified *C jejuni* in the genus *Vibrio* because of morphologic similarities to *V cholera.* Differences in biochemical and growth characteristics have led to the creation of a separate genus, *Campylobacter.* The organisms that cause human enteritis used to be classified as *Campylobacter fetus* subspecies *jejuni.* Recently they have been elevated to a separate species *Campylobacter jejuni.*

Before 1977 *C jejuni* were missed on cultures of stool specimens because of their nonstandard growth requirements. Identification is usually accomplished by using a selective medium containing antibiotics to suppress other intestinal flora in an atmosphere containing 5 percent oxygen and at a temperature of 42°C. Many laboratories will not routinely plant stool cultures under these conditions. Thus a special request to culture for *C jejuni* may have to be made by the physician ordering the culture.

The route of transmission of *C jejuni* is not entirely clear. Fecal-oral transmission and contaminated food and water are considered to be major ways. The organism is widespread among animals, both as commensal gastrointestinal flora and as a cause of enteritis. A large outbreak in Vermont was traced to a contaminated water supply. Dogs with enteritis have been implicated in other studies. Person-to-person transmission, especially among children, is well documented.

Patients of all ages are affected, with peak incidence for children occurring during the first 5 years of life and for adults at 20 to 25 years. Most cases occur during the summer months.

Clinical presentation varies from mild to severe disease. Incubation is usually one to six days. A febrile prodrome with headache, malaise and variable temperature elevation is common. This is followed by abdominal pain and diarrhea that begins with watery and profuse stools. Dysenteric stools develop after a few days. Gross blood and mucus are present in the stools of most patients at some time during the course of the illness. Severe colicky abdominal pain is a hallmark of *Campylobacter* enteritis. The pain can be severe enough to mimic an acute condition of the abdomen. Laparotomies in search of a ruptured viscus are common. Dehydration and vomiting may occur in a few patients. Fecal leukocytes are present in most cases where examinations have been carried out. Diagnosis is made by culture of stool specimens.

Duration of symptoms is usually seven to ten days. Some patients, however, have a relapsing course for several months. *Campylobacter* persists in the stools of patients after recovery but for a shorter period than *Salmonella.* Children in a Montreal study excreted bacteria for an average of 26 days, while 90 percent of Swedish patients had negative cultures after five weeks. Isolation of *C jejuni* from the stool of asymptomatic persons is rare.

C jejuni in vitro are sensitive to several antibiotics, notably erythromycin and tetracycline. Controlled trials have shown that stool cultures become negative and symptoms cease in 48 hours when erythromycin is administered orally. Duration of symptoms was not significantly different in treated and untreated patients when therapy was begun four or more days after the onset of symptoms. However, fecal shedding was considerably shortened by erythromycin treatment. At present antibiotics are usually reserved for patients with severe or protracted illness but may be useful in reducing horizontal transmission.

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Treatment and Prognosis of Reye's Syndrome

Reye's syndrome is an acute noninflammatory encephalopathy associated with fatty change in the liver. It occurs in previously healthy, vigorous children and ranks behind only acute infectious encephalitis as the most common cause of death in virus-related diseases of the central nervous system (CNS). The early recognition of this syndrome by primary care physicians, coupled with organized protocols of therapy, has resulted in decreased mortality in recent years.

Reye's syndrome is heralded by protracted vomiting followed by alternating periods of lethargy and excitability in a child with a trivial, antecedent viral illness. Georgraphic and temporal clusters are associated with influenzae A and B. Noncluster cases occur throughout the year associated with other illnesses such as varicella gastroenteritis. Salicylates have been implicated by some investigators in the pathogenesis of Reye's syndrome, but direct proof is lacking. The diagnosis should be strongly suspected in a nonjaundiced child with a clinical history compatible with Reye's syndrome and SGOT, SGPT and serum ammonia levels greater than twice the upper limits of normal. Supporting laboratory data include a prolonged prothrombin time, serum bilirubin level less than 3 mg per dl, hypoglycemia and normal cerebrospinal fluid. If not clear, the diagnosis may be confirmed by percutaneous liver biopsy that shows microvesicular fat accumulation. Mimicking conditions, including varicella-associated CNS and hepatic dysfunction, can thus be excluded.

Rapid deterioration through progressive stages of coma culminating in irreversible or lethal neurologic damage is usually associated with elevation of intracranial pressures (ICP). Therapy therefore hinges on relief of increased ICP, assessed by an ICP monitoring device, and is most efficiently accomplished in a regional intensive care unit with a critical care team following an anticipatory protocol. Principal modalities for the relief of elevated ICP currently include osmotherapy with mannitol and controlled hyperventilation. Some centers also use hypothermia, short-acting barbiturates and decompressive craniectomy.

These approaches have been associated with a decrease in mortality during the past 5 years from approximately 40 percent to 20 percent or less. The stage of coma at which intensive supportive care is begun appears to influence the prognosis. While progression to deeper stages of coma is common following institution of therapy, admission in stages of deep coma is associated with higher mortality. The incidence of neurologic dysfunction following recovery from Reye's syndrome is not well established. School performance may be affected in children who otherwise show no disability, and severe motor disorders may persist in those who progressed to stages of deep coma.

These considerations prompt the following recommendations: Recognition of Reye's syndrome requires a child's immediate admission to hospital, intravenous administration of 10 percent dextrose and half-normal saline solution at a maintenance rate (1,500 ml per sq meter per 24 hours) and careful monitoring of mental and cardiopulmonary status. Early consultation with and transfer to a referral center familiar with management of Reye's syndrome is appropriate because of the complexity of treatment and implications for a good outcome.

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Decongestants and Antihistamines in the Care of Acute or Serous Otitis Media

Decongestants and antihistamines are commonly used in the treatment of otitis. Pneumatic otoscopy and tympanometry have improved a clinician's ability to diagnose serous otitis media (SOM). SOM develops in about 20 percent to 50 percent of children after an episode of acute otitis media (AOM). A child under age two is more likely to have a persistent effusion, but no studies currently indicate the long-term prognosis.

Recently several studies have examined prevention of SOM following AOM by giving drug or placebo along with antibiotic treatment for AOM. Not every study used the objective criterion of tympanometry. When compared with placebo, there was no substantial reduction in the occurence of SOM after two weeks for pseudoephedrine hydrochloride or sulfate, brompheniramine maleate, tripolidine hydrochloride or a tripolidine-pseudoephedrine (Actified) combination.

Randall in a similar manner tried to prevent AOM by initiating antihistamine-decongestant (brompheniramine-phenylephrine-phenylpropanolamine [Dimetapp]) treatment when symptoms of an upper respiratory tract infection were felt. When compared with placebo, there was no significant decrease in the development of AOM.

The medical treatment of SOM, once it is established, has been equally frustrating. In their studies, Olson and co-workers kept children with SOM after AOM on a drug or placebo for an additional four to six weeks. Neither pseudoephedrine nor brompheniramine improved the rate of cure. The subgroup who had a past history of SOM actually did worse on either treatment compared with placebo. Fraser and colleagues also failed to show either Dimetapp, ephedrine nose drops or auto inflation (by obstructing the nose and blowing to open the eustachian tube) as useful in British children with SOM. However, children with long-standing SOM may have underlying allergies or eustachian tube dysfunction and may differ briefly from a child with SOM after acute otitis. We need more study of this group with chronic SOM.

In summary, based on these studies there is no supporting evidence thus far for using antihistamines, decongestants or their combinations for (1) the prevention of AOM when a cold develops, (2) the prevention of SOM when AOM is being treated or (3) the treatment of SOM once it develops.

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Yersinia Enteritis in Children

Yersinia-associated gastroenteritis is caused by *Yersinia enterocolitica* or *Yersinia pseudotuberculosis.* Both organisms are related to the causative agent of plague, *Yersinia pestis.* The organisms may be confused with Gram-negative nonlactose-fermenting enteric pathogens but are distinguished by their growth in specifically defined media or under cold enrichment. *Y pseudotuberculosis* produces an invasive lesion in experimental animals with granulomas in mesenteric nodes. A heat-stable toxin that is biochemically similar to other enteric pathogens has been isolated from human strains of *Y enterocolitica* and the organism can also produce lesions of the lymphatic system of the gastrointestinal tract and mesenteric lymph nodes.

In the United States *Y enterocolitica* enteritis in children seems to be an infrequent cause of diarrhea. In a survey of enteropathogens at Children's Hospital National Medical Center in Washington from 1974 to 1976, only five cases of diarrhea were described with *Y enterocolitica.* Four of these five children had primary enteric illness, while the fifth patient had associated ocular and joint involvement. In three of five cases the disease wa self-limited. Two of the five patients seemed to respond to antimicrobial therapy with either orally administered ampicillin or trimethoprim-sulfamethoxazole. In other series, the acute enteritis is characterized by fever (87 percent), diarrhea (69 percent), severe abdominal pain (62 percent), vomiting (56 percent) and other constitutional symptoms such as pharyngitis, headache and leukocytosis. Blood may be present in stools. The average illness lasts from one to two days and subsides spontaneously without sequelae. Yersinia-associated enteritis is reported most frequently in cold months. Both *Y psuedotuberculosis* and *Y enterocolitica* have been identified from a wide range of animal and environmental sources, including domesticated animals such as pigs, goats and dogs and contaminated animal products such as goat's milk, chocolate milk or contaminated water sources. Person-to-person spread appears to be unusual. The incubation period is between five and seven days for both of these pathogens.

Two other presentations of *Y enterocolitica* infection occur. One is a syndrome of abdominal pain more common in older children and adolescents. This illness generally begins with abdominal pain, fever and vomiting; diarrhea may not be a prominent feature. The pain often localizes to the lower quadrants and may mimic mesenteric adenitis, terminal ileitis or a true appendicitis. Intestinal peforation or metastatic spread of infection may develop. The other, less frequent, presentation of *Yersinia* infection is characterized by the development of systemic manifestations in addition to enteritis. The clinical spectrum may range from erythema nodosum with mild or moderate arthritis to involvement of the eye with iritis and conjunctivitis. Classical Reiter's syndrome may develop and appears to be associated with persons who possess the HLA-B27 antigen.

Yersinia-associated gastroenteritis should be suspected in any case of febrile diarrheal illness and in cases of acute abdominal pain simulating appendicitis. If mesenteric adenitis, appendicitis or ileitis is found at surgery, appropriate cultures should be taken. *Yersinia* can be isolated with cold enrichment (4°C for three weeks) and grows on MacConkey medium or Salmonella-Shigella medium incubated at 22° to 29°C. Antibody titers can be measured by agglutination or hemagglutination and may be available through public health laboratories. Maximum antibody titers are usually present at two weeks. Most strains of both pathogens are sensitive in vitro to chloramphenicol, the aminoglycosides, trimethoprim-sulfamethoxazole and tetracycline; susceptibility to the cephalosporins, semisynthetic penicillins and ampicillins is variable. Although efficacy of antibiotics in treating Yersinia-associated enteritis has not been established, most would recommend therapy in severe infections.

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Toxic Shock Syndrome in Children and Adolescents

First described by Todd and co-workers in 1978, the toxic shock syndrome is a new disease entity with well-defined epidemiologic and clinical criteria for diagnosis. In the original description, seven children presented with staphylococcal infection. Two of these children had focal staphylococcal abscesses, and local infection resulted in a fulminant disease that affected many organ systems. The disease today is recognized primarily in young, menstruating women using tampons. The incidence of this condition in other patients not associated with tampon usage is not known.

The clinical features and case definition criteria for toxic shock syndrome are as follows: (1) fever (temperature 38.9°C [102°F]), (2) rash (diffuse macular erythroderma), (3) desquamation (one to two weeks after onset of illness, particularly of palms and soles), (4) hypotension (less than fifth percentile by age for children 16 years of age or younger, or orthostatic syncope), (5) three or more of the following types of involvement: *gastrointestinal* (vomiting or diarrhea, or both, at onset of illness), *muscular* (severe myalgia or creatine phosphokinase twice normal), *mucous membrane* involvement (vaginal oropharyngeal or conjunctival hyperemia), *renal* (blood urea nitrogen or creatinine levels twice normal or urinalysis showing greater than five leukocytes per high-power field in the absence of a urinary tract infection), *hepatic* (total bilirubin, serum aspartate aminotransferase [formerly, serum glutamic oxaloacetic transaminase, SGOT] or serum alanine aminotransferase [formerly, serum glutamic pyruvic transaminase, SGPT] twice normal), *hematologic* (platelets less than 100,000 per cu mm), *central nervous system* (disorientation or alterations in consciousness without focal neurologic signs), negative results from *blood, throat* or *cerebral spinal fluid cultures; negative serologic tests* for Rocky Mountain spotted fever, leptospirosis or measles.

Most patients recover completely within 7 to 14 days. Desquamation may be patchy but occasionally involves almost the entire body. Hair loss and nonreversible nail defects have also been reported.

The incidence of toxic shock syndrome in menstruating women is estimated at 3 per 100,000 per year. Since this is a low figure compared with tampon usage, additional factors must play a role. The association with colonization or infection with phage group 1 *Staphylococcus aureus* is clear. If toxigenic *S aureus* is the causative factor, how does tampon use predispose to the disease? Investigations have shown that regular use of tampons and of so-called superabsorbent tampons produce vaginal mucosal drying and epithelial changes. The superabsorbent tampons may produce microulcerations that facilitate local extension of vaginal staphylococcal colonization to the circulatory system.

Toxic shock syndrome is a multisystem disease varying in severity and with a variety of historical, physical and laboratory manifestations. It is similar to other desquamative conditions such as Kawasaki's disease (mucocutaneous lymph node syndrome), the scalded-skin syndrome, cat scratch disease, scarlet fever, Rocky Mountain spotted fever, leptospirosis and staphylococcal food poisoning. The above conditions must be ruled out and can be excluded by appropriate laboratory tests. Retrospective analysis of other patients in the literature thought to have one of the above mentioned desquamative conditions now fulfill the criteria of toxic shock syndrome and the incidence of the disease will increase as more data are reviewed.

Investigations are now concerned with the production of a staphylococcal toxin that is probably responsible for the disease. The pyogenic and exfoliative toxins associated with *S aureus* infection have not been isolated consistently in patients with the toxic shock syndrome. Perhaps a new yet unidentified toxin is responsible for the clinical manifestations of the disease.

Therapy of toxic shock syndrome depends on the severity of the illness. Severe cases require intensive facilities, with initial therapy directed toward correction of hypotension. Oncotic pressure should be monitored and vasopressors are used to maintain perfusion. Antistaphylococcal antibiotics are used, although they may be more important to minimize the risk of recurrent disease. The use of corticosteroids is controversial.

Current recommendations for women who prefer to continue tampon use are as follows: use of sanitary napkins during sleep hours; if toxic shock syndrome has been previously diagnosed, tampons should not be used for at least two cycles and only after cultures are negative for *S aureus.*

Patients who have focal staphylococcal infections should be monitored closely for the possibility of development of the fulminant toxic shock syndrome.

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Gastro-Intestinal Symptoms among Expectant Fathers

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ABSTRACT—A little recognized syndrome of gastro-intestinal complaints among expectant fathers is presented. Anxieties about the impending role of fatherhood and "co-identification" with a pregnant mate represent possible etiologic factors for this syndrome which causes many expectant fathers to seek medical care.

"I felt the baby move. Last week I felt a kick for the first time. It's very exciting. I feel much better than I did a month ago when I was nauseated every morning. Some days I was nauseated until noon. I vomited every morning for three weeks. I had cramps, too. I also had a toothache, first in one tooth, then in another. My dentist could find no explanation for the pain. It's gone now."

These comments which sound familiar to physicians and nurses offering prenatal care were spoken, strange as it may seem, by an expectant father. For many years the authors, a midwife providing prenatal care and a pediatrician who meets routinely with expectant couples, have observed many men who suffer gastro-intestinal and other complaints during a mate's pregnancy.[1]

Lipkin and Lamb report that 22% of the mates of 267 pregnant women attending a prenatal clinic in a health maintenance organization in Rochester, New York sought medical attention for gastro-intestinal symptoms during their mate's pregnancy.[2] These complaints were absent in the six months prior to the woman's conception and in the six months after the birth of the baby.* Clinical and laboratory examinations revealed no objective explanation for these symptoms. The disappearance of the men's symptoms after the birth of the baby, the absence of the complaints in two control periods, one before the pregnancy and one after delivery, and the lack of objective clinical and laboratory findings to explain the condition suggest that the woman's pregnancy is an etiologic factor in this syndrome appearing among expectant fathers.

Thirty years ago one of the authors (MAW) became aware of this syndrome while participating in a class for expectant fathers sponsored by the New Haven Health Department. One man who remarked that he had been suffering from nausea and abdominal cramps ever since the beginning of his wife's pregnancy, recalled that it was a common belief in the village in Southern Italy where he lived as a child that an expectant father would experience nausea, vomiting, cramps and diarrhea during a wife's pregnancy. Brigitte Jordan, an anthropologist who studies childbirth in different cultures, reports that in Yucatan a woman's pregnancy is confirmed when her husband begins to experience food cravings.[3]

This syndrome is neither new nor unique. Three hundred years ago Robert Heath, a British poet, wrote:

> "We observe each loving husband, when the wife
> Is labouring by a strange reciproque strife
> Doth sympathising sicken; and't may be
> In Law they're one and in Divinity."

Another English author Wilkins wrote in *The Miseries of Enforced Marriage* in 1609:

> "I have got thee with child in my conscience and, like a kind husband, methinks I breed it for thee. For I am already sick at my stomach and long extremely.[4]

Trethowan has studied this clinical syndrome in detail.[4,5] He became interested in this condition in 1944 while serving in the Royal Army Medical Corps. A husky, healthy appearing officer sought medical consultation because of severe abdominal cramps. Examination revealed no physical reasons for the symptoms. The man's wife was expecting to deliver momentarily. The symptoms disappeared when the man received a telegram announcing that his wife had delivered a healthy son in a distant city. In another instance Trethowan reported that an obstetrician awaiting the birth of his second child suffered abdominal pain of such intensity that a consulting surgeon recommended an immediate exploratory operation. The disappearance of the symptoms when the doctor's wife went into premature labor delivering a healthy, but small infant resulted in prompt cancellation of the plans for surgery.

Several physicians serving in the United States Military Service have noted and described this syndrome.[6,7] Why this condition is recognized more commonly among men serving in military service than in

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* This study uses a "tracer" condition, that is a clearly defined and detectable entity, in this instance pregnancy, to examine the prevalence and cause of symptoms among the male partners of the women attending the prenatal clinic.

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civilian life is unclear.

Trethowan also observed that many men develop unusual food cravings during their wives' pregnancies. One man craved fried eggs on bread. The eggs had to be arranged carefully and symmetrically on the plate. If the yolk was broken, the egg had to be replaced. Other men reported specific food cravings for foods such as chocolate, ice cream, doughnuts, potato chips and rare fruits.

Expectant fathers often suffer toothaches and gum pain with no apparent explanation.[4,8] These symptoms usually disappear promptly after the birth of the infant. Several expectant fathers in England are reported to have requested extraction of a perfectly sound tooth because of extreme pain. The symptom may migrate from one tooth to another. A few men observed by the authors have reported toothaches.

In some societies "sympathetic labor" is a male ritual which is referred to as the "couvade." [8] This anthropologic term refers to observations in many cultures where men go to bed during their wives' labor and delivery. They often present intense physical manifestations of discomfort which include twisting, turning, and groaning simulating a woman in active labor. Men in these societies believe that by assuming these actions and vicarious suffering they can reduce a woman's discomfort during labor and delivery and also protect her from harm.

The symptoms presented in this paper observed among expectant fathers in England and America, although sometimes referred to as the "couvade syndrome," are different. The symptoms in this instance bear a strong resemblance to those that women often experience early in pregnancy. Video studies of pregnant women and women in labor in Yucatan and Holland suggest that men actually identify and "co-experience" many of the bodily feelings of the women during pregnancy and delivery.[3] In no instance have the men expressed the idea that their symptoms would be expected to relieve some of the women's discomfort. Indeed men often fail to perceive the relationship between their mate's pregnancy and their own complaints. However, when one suggests to men that the association may be more than coincidental, the symptoms often diminish and in some instances disappear completely.

The basis for this syndrome, which is more common than generally recognized, is unclear. Although an expectant father usually awaits the birth of his baby with pride, the anticipation of the parental role with new responsibilities presents specific challenges.[9] This new life experience ahead can be upsetting; as one man stated eloquently: "I was a wreck from the time my wife told me she was pregnant until several months after the baby was born. I worried about her health. I also wondered how I would measure up as a father."

The process of transition as a couple become parents is a major developmental task of adult life.[10,11,12] Many couples, although they consciously plan their pregnancies and anticipate with pleasure the birth of their baby, nevertheless need to reorganize their priorities as they anticipate assuming parental role, and responsibilities. There is widespread recognition that a woman's pregnancy serves as a biologically determined step in maturation.[10] Physical changes, including the alteration of body contours, the feeling of life within her body as the fetus moves, and the process of labor and delivery propel a woman into a new stage of adulthood. She experiences the preliminary phase during pregnancy and then dramatically gives birth to the baby. There is no question but that "now she is a mother." Some women do adapt to the maternal role more quickly and effectively than do others. However, to a greater or lesser degree, a woman's delivery-experience ushers her precipitously into the parental phase of adulthood.

A man without the dramatic experience of carrying and delivering a baby undergoes a parallel maturational experience.[9] The symptoms demonstrated among expectant fathers reflect inner psychologic reorganization as they prepare for and anticipate the new role of fatherhood. The enormous task ahead looms overwhelming. A man is likely to reflect on his own childhood and feelings towards his own father as he considers the future which is just ahead of him. Many expectant fathers ask: "Will I be a good father? Will I be as good a father as my father was? Will I be able to do a better job than my father did?"

A man engrossed in the early phases of his professional or business career may consider prospective fatherhood as a burdensome interference in his life scheme. An expectant father remarked: "This is our last chance as human beings to have a good time; after this we're going to be parents." It may be difficult for some men to consider fatherhood as a major priority, but they can be helped to work towards this as a goal.

The man whose life goals include family responsibilities may experience this transitional phase with relative ease, as one man said with a sense of satisfaction: "Fatherhood is something that grows on you." Yet even in this instance men need to reorganize their priorities so as to achieve this perspective. This process demands an enormous change in a man's life style.

There are experiences besides impending fatherhood during the pregnancy which create anxiety for men. An expectant father has concerns about his wife's health and comfort. How difficult will the labor and delivery be? How painful will it be? What is the possibility of life-threatening complications? Every man hopes that his wife will be spared undue pain and complications.

Expectant fathers are always anxious about the well-being of their infant. All parents worry until a baby is examined. The expectant father recalls the unfortunate experiences of friends who have suffered miscarriages, still births or birth of a defective infant. These thoughts intensify his concerns and anxiety. No one can guarantee a baby's health until the infant is examined. The fact that the majority of infants are healthy at birth is only partially reassuring. Every expectant parent recognizes there is always the possibility that an infant will present a defect of one sort or another. These possibilities contribute to the uneasiness and anxiousness of the expectant father until the baby is born.

An expectant father also has to adapt to changes in his mate during the pregnancy. An expectant woman, as she feels the growing infant within her body, may become preoccupied and introspective. She too gives thought to the extent that she will have to relinquish her freedom.

Amidst all of this confusing psychologic reorganization, women often feel uncomfortable, suffering with nausea, heartburn, difficulty in sleeping, and an inability to relax. These factors alter a woman's spontaniety and her attitudes towards her husband. Bibring suggests that some of the psychologic symptoms observed in women during pregnancy if they occurred at any other time of life would suggest a severe psychologic disturbance.[10] During pregnancy, however, the symptoms reflect the tremendous psychic reorganization of a woman's outlook on life as she anticipates the birth of her baby and her future maternal responsibilities.

Men may become quite distraught during a pregnancy. They often feel left out and unwanted. Some men mention that they feel as though they can't do anything right. The woman's "condition" calls for utmost patience, understanding and tolerance. This brings out the best in some men who like acting as a protector and provider. Other men feel lonely. They interpret their wives' behavior as indications of a loss of interest in them. This can be quite frightening to some men. Many expectant fathers fear that their wives' withdrawn attitude will become even greater after the birth of the baby.

Expectant fathers face a formidable task as they await the birth of their child. And what is even more disheartening is that until recently little attention has been given to consideration of meeting men's needs. Indeed, they have more often been a subject to be laughed at rather than to be considered.

The increased opportunities for men to participate during pregnancy, labor and delivery reveal that men respond eagerly. It is rare for an expectant father to fail to accompany his wife for a prenatal pediatric conference with their chosen pediatrician. Men often attend prenatal classes with their wives.

The goal of health professionals is to help a couple achieve a satisfying and safe pregnancy, labor and delivery and to integrate the infant into the family unit. A woman should be encouraged to being the baby's father for routine prenatal appointments or to arrange a special time for couple to meet with the midwife or physician. The appointment with the expectant father and mother initiates a feeling of closeness for the father-to-be who has so often been left out during the pregnancy. This visit facilitates communication between the couple and prepares the father for bonding with the infant in the delivery room or labor suite.

The gradual increase in provisions for expectant fathers to participate in the child birth classes, the labor and delivery, and the care of the infant in a rooming-in unit represents long overdue recognition of the fact that many men do wish to be involved in the lying-in experience. Most men respond with eagerness and delight to these possibilities of participating. Any provision in which an expectant father can participate in the pregnancy, labor and delivery enhances his ability to achieve successful parenthood in the future.

Conclusion

The gastro-intestinal symptoms which many expectant fathers present often reflect psychologic stresses as men anticipate the birth of their child. Considering the many necessary adjustments it is understandable that men should present bodily symptoms reflecting their inner struggles. Why most of the complaints except for the toothache are gastro-intestinal is unclear. The symptoms are quite similar to those observed in many pregnant women suggesting a strong "co-idenification" with the woman's experiences. This syndrome reflecting psychic stress and turmoil in expectant fathers deserves professional attention and detailed study.

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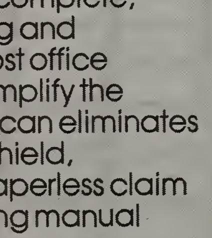

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Physicians' Earnings, 1981-82

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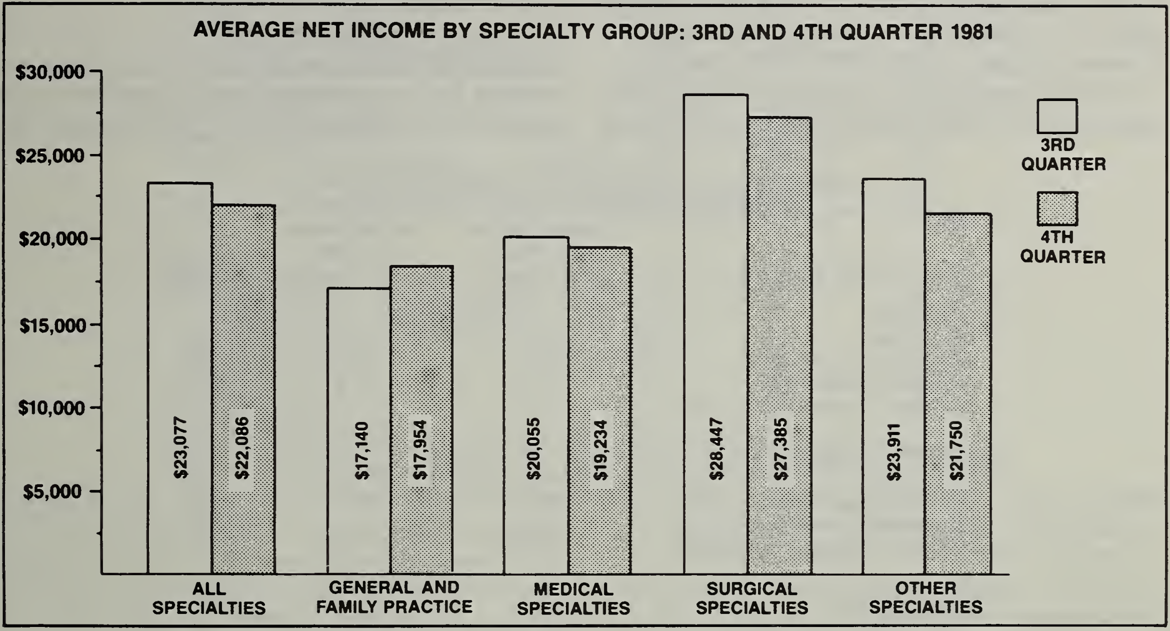

AVERAGE NET INCOME BY SPECIALTY GROUP: 3RD AND 4TH QUARTER 1981

Introduction

The Socioeconomic Monitoring System (SMS) is a new data collection program established by the American Medical Association to monitor changes in the socioeconomic aspects of medical practice. Recently, SMS completed its transitional phase. This phase consisted of two quarterly surverys. The first survey, conducted between October and December of 1981, included approximately 1,300 physician respondents and had an overall response rate of 60 percent. The second quarterly survey, covering the period January through March of 1982, included 1,200 respondents and had a response rate of 65 percent.

This report examines several key elements of the changing medical practice environment. The issues addressed are:

- changes in physicians' earnings for selected specialty groups;
- changes in average weekly visits for seven specialty groups; and
- changes in utilization, fees, and total expenditures for selected medical, diagnostic, and surgical services.

All comparisons, with the exception of physicians' earnings, are made between fourth quarter 1981 and first quarter 1982. Reliable information on quarterly income can only be obtained after a quarter is completely closed out. Comparisons of physicians' earnings, therefore, are between third and fourth quarters of 1981.

The SMS program is in an early stage of development. Initially, interpretation of data generated from this program should be done with some care since it is not possible to distinguish between real and seasonal fluctuations. Only when SMS completes a full program year will it be possible to determine the magnitude of seasonal components and make the appropriate adjustments. While this report provides reliable information on the changing medical marketplace, the results should be viewed as being primarily descriptive.

Physicians' Earnings: Comparison of Net Income for 3rd and 4th Quarter 1981

The third and fourth quarters of 1981 were not good ones for the U.S. economy, as witnessed by the fall in

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The AMA Center for Health Policy Research directs the Socioeconomic Monitoring System in cooperation with the AMA Division of Survey and Data Resources.

real Gross National Product, abnormally high interest rates, and chronic unemployment. According to the information presented in Table 1 these quarters were not particularly strong for physicians either. In the "All Physicians" category, net income in the fourth quarter fell from the previous quarter by 4.3 percent. However, not all groups of physicians experienced a decline in fourth quarter earnings; General and Family Practice physicians reported a 4.7 percent increase in net incomes over their reported third quarter earnings.

The poor showing of the economy in the last two quarters of 1981 may, in part, be responsible for the decline in physicians' earnings over this period. Alternatively, the decline in fourth quarter earnings may be attributed to President Reagan's 1981 Economic Re-

Table 1

PERCENTAGE CHANGE IN AVERAGE NET INCOME: 3RD AND 4TH QUARTER 1981

All Physicians	-4.3%
General and Family Practice	4.7
Medical Specialties	-4.1
Surgical Specialties	-3.7
Other Specialties	-9.0

Table 2

AVERAGE NUMBER OF PHYSICIANS' SERVICES PER WEEK BY SPECIALTY: COMPARISON 4TH QUARTER 1981 AND 1ST QUARTER 1982

Specialty and Type of Service	*Average Number Per Week: 4th Quarter*	*Average Number Per Week: 1st Quarter*	*Percent Change*
All Physicians*			
Office Visits	80.6	76.8	-4.7
Visits on Hospital Rounds	37.7	36.7	-2.5
ER and Outpatient Visits	11.5	12.8	11.4
Operations, Deliveries and Assists	3.3	3.0	-8.5
General and Family Practice			
Office Visits	116.4	111.9	-3.9
Visits on Hospital Rounds	33.1	35.8	8.3
ER and Outpatient Visits	6.8	6.1	-10.4
Operations, Deliveries and Assists	1.3	1.2	-4.3
Medical Specialties			
Office Visits	69.0	70.2	1.8
Visits on Hospital Rounds	42.0	42.9	2.1
ER and Outpatient Visits	8.5	9.4	10.6
Operations, Deliveries and Assists	0.6	0.5	-5.3
Surgical Specialties			
Office Visits	77.6	73.2	-5.7
Visits on Hospital Rounds	42.3	40.2	-5.0
ER and Outpatient Visits	5.5	5.4	-0.7
Operations, Deliveries and Assists	7.5	6.7	-10.7
Psychiatry			
Individual Sessions	41.1	41.0	0.5
Group Sessions	3.4	2.1	-39.0
Anesthesiology			
Patients Personally Anesthetized by Physician	17.9	17.9	0.0
Patients Anesthetized Under Physician Supervision by Nurse Anesthetists	11.7	14.8	27.0
Pre-anesthesia Visits	22.8	24.3	6.8
Visits on Hospital Rounds	7.5	11.6	55.1
Radiology			
Films Read	410.4	441.5	7.6
Radiodiagnostic Procedures Performed	62.8	45.2	-27.9
Patients Provided with Radiotherapy	6.8	5.8	-13.5
Consultations	46.4	30.5	-34.3
Pathology			
Surgical Consultations	8.5	7.9	-7.4
Examinations of Surgical Specimens	77.9	66.1	-15.1
Laboratory Procedures Performed	17.2	57.6	235.5
Autopsies	1.4	1.2	-17.6

*Includes all specialties except Psychiatry, Anesthesiology, Radiology and Pathology.

Table 3

PERCENTAGE CHANGE IN UTILIZATION, FEES AND EXPENDITURES FOR SELECTED PROCEDURES: 4TH QUARTER 1981 AND 1ST QUARTER 1982

Procedure or Service	*Change in Utilization*	*Change in Fees*	*Change in Expenditures**
Medical and Diagnostic			
Office Visit—New patient	-8.3%	28.9%	18.2%
Office Visit—Established patient	-2.8	9.0	6.0
Follow-up Hospital Visit	6.9	0.6	7.5
Periodic Exam—Established Adult Patient	1.6	0.3	1.9
Periodic Exam—Established Patient in Early Childhood	-14.7	6.2	-9.4
Routine Newborn Care	-41.0	15.4	-31.9
Individual Psychotherapy	8.3	-3.0	5.1
Psychiatric Diagnostic Evaluation	-14.1	-8.2	-21.1
EKG	-8.9	18.4	7.9
Chest x-ray—Two views	-4.5	12.8	7.7
Surgical			
Appendectomy	5.0	6.6	11.9
Total Obstetrical Care—Vaginal Delivery	1.2	1.6	2.8
Total Obstetrical Care—Cesarean Section	7.2	-1.6	5.5
Total Hysterectomy	-20.9	1.6	-19.6
Diagnostic D & C	-3.7	2.7	-1.1
Hernia Repair	4.6	1.5	6.2
Cholecystectomy	23.5	0.2	23.8

*Changes in expenditures by patients is the sum of the percentage change in fees and utilization adjusted for the effect that a change in fees might have on the utilization of a particular service.

covery Tax Act. Under this Act, income tax rates are lower in 1982 than in 1981. Since revenues earned in calendar year 1981 but not received until calendar year 1982 may be reported on the 1982 tax return, the lower tax rates provide an incentive for postponing reported income. At this point it is impossible to ascertain whether the decline in net income is attributable to the performance of the economy, the recent change in the tax laws, or a significant change in the physicians' service market.

Physicians' Services, Fees, and Expeditures 4th Quarter 1981 and 1st Quarter 1982

The United States spent an estimated $286 billion for health care in 1981, an amount equal to 9.6 percent of the Gross National Product. Since physicians are perceived to play a significant role in the determination of National Health Expenditures, much interest has been generated in the utilization of physicians' services as well as changes in physicians' fees. The AMA's monitoring program was designed to track changes in these areas. Table 2 provides information on physicians' utilization patterns for general services, such as weekly office and emergency room visits. Table 3 presents utilization, fee, and expenditure data for frequently performed medical, diagnostic, and surgical services.

- From Table 2 there appears to be a general decline in the average number of services performed per week (e.g., for the category "All Physicians" three out of the four service classifications exhibited a decline in the number of weekly services). By specialty, only medical specialists and anesthesiologists experienced an increase in utilization over these two quarters.
- Recently, specific concern has been expressed over the increasing number of physicians in surgical specialties and the possibility of overutilizing surgical services. The information presented in Table 2 indicates, however, that surgical visits have declined between the 4th quarter of 1981 and the 1st quarter of 1982.
- In the Medical and Diagnostic category shown in Table 3, utilization fell for 7 out of the 10 reported services, while in the Surgical category only Hysterectomies and Diagnostic D & C's experienced a decline in utilization. Turning to fees, prices for medical and diagnostic procedures have increased appreciably while surgical fees have risen moderately.
- Using the information in columns 1 and 2 of Table 3, changes in expenditures on each physician service can be estimated. In the Medical and Diagnostic category, total expenditures fell for newborn care (-31.9%) and childhood annual exams (-9.4%). The largest increase in expenditures in this category is for new patient's office visits (18.2%). In the Surgical category, expenditures rose for 5 of the 7 procedures reported. However, there was a sharp decline in expenditures for total hysterectomies (-19.6%).

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Month in Washington

The "lame duck" session of Congress starting Nov. 29 will feature action on legislation to exempt the professions from Federal Trade Commission jurisdiction and on most of the major appropriations bills, including funding for the Health and Human Services Department.

Other major health issues to be resolved when Congress returns include authorizations for the National Institutes of Health and extension of the health planning program.

The FTC showdown was postponed for a number of reasons, including the need for a continuing resolution to keep the federal government operating for the first two months of the fiscal year that began Oct. 1. The resolution was necessary because Congress had approved only two of the 13 big money bills for the current fiscal year. The failure to act more swiftly on the appropriations front was the reason for the extra, or lame duck session that was forced by President Reagan.

Before hitting the campaign trail for the general elections, the House rejected the Administration's proposal for a constitutional amendment requiring a balanced budget. The vote was far short of the necessary two-thirds margin of approval.

Among other hurried votes, the Senate adopted 70 to 29 a non-binding resolution opposing any "means" test for Medicare patients, knocking down a trial balloon floated by the Administration as officials tried to figure out ways to pare Medicare costs next fiscal year.

Congress did approve legislation encouraging states to pass strict laws against drunk driving by giving them more highway funds.

The House approved an authorization to give the National Institutes of Health 11 percent more money this fiscal year and to add a new Institute of Arthritis. The Senate must still act.

The controversial health planning program won a lease on life by House adoption of a bill keeping the program going for two years, but cutting funding to a total of $65 million and restricting federal funding for certificate-of-need to institutions involved with $1 million or more of new projects. The Senate has not voted on this issue.

* * * *

Congress' early Oct. decision to adjourn and postpone until at least the end of November the showdown vote on exemption of the professions from the Federal Trade Commission has given both sides in the controversy time to bolster their drives for votes.

The climate in the lame duck session of Congress will be more relaxed. Lawmakers will be under less political pressure with the elections well behind them. The "lame ducks"—Senators and Representatives defeated in the general election—will be under no pressure at all.

The postponement was in part due to the belief by Congressional leaders that the issue is a political hot potato that the lawmakers would rather not handle until the elections are over.

Since the timing of the House vote was in the hands of the Democratic leadership—which is generally opposed to the anti-FTC drive led by the American Medical Association—there was reason to speculate that the leadership was not confident its forces could prevail in a vote by the full House.

The Senate Republican leadership promised to take up the measure in the "lame duck" session after the Senate Appropriations Committee had approved 13-5 an amendment that would prohibit the FTC from using appropriated funds to take actions against state-regulated professions such as physicians. The amendment was part of a continuing appropriations resolution that finally cleared Congress. Amendment sponsor Sen. James McClure (R-ID) agreed not to press for a Senate vote when assured by leadership the question will be resolved in the special session.

The Senate Commerce Committee earlier this year approved a re-authorization bill for the FTC that included an amendment by Sen. Ted Stevens (R-AK) to exempt the professions. This measure is still pending before the Senate, delayed in part because of the opposition of Committee Chairman Robert Packwood (R-OR) to the Stevens Amendment, which was adopted by a 10-5 committee vote.

The situation in the House originally was for a vote Oct. 1 on a bill re-authorizing the FTC for another year. As approved by the House Commerce Committee, the bill contained no restrictive language on the FTC's jurisdiction, but opponents of the FTC's control over the professions were promised a floor vote on the bill by Reps. Thomas Luken (D-OH) and Gary Lee (R-NY) for a moratorium on FTC's actions against the professions. A slight majority of the House—220 members— has endorsed the Luken-Lee bill.

A strong argument against the FTC's jurisdiction over the professions was registered from a surprise quarter—the Attorney General of North Carolina, Rufus Edmisten. The Association of State Attorneys

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General had voted to support the FTC, but Edmisten told Congress that "without the Luken-Lee Amendment the FTC will have the authority to pre-empt state laws and regulations, an authority which I have opposed repeatedly."

Edmisten noted in a letter to Rep. L.H. Fountain (D-NC) that in 1978 he joined with the attorneys general of 16 other states to challenge "the FTC's attempt to pre-empt state laws relating to advertising of ophthalmic goods.

"In essence, our argument was that the FTC does not have authority to pre-empt state statutes. This is a principle of tremendous importance. The (Appeals) Court remanded the case, with its opinion supporting the position of the attorneys general."

Edmisten said FTC actions "have undermined what is a traditional state regulatory authority and have discouraged these groups from many self-regulatory activities." The professions, he noted, "have a long and impressive record of self-regulation in the public interest." Edmisten pointed out that the Justice Department and the states would retain their antitrust authorities over the professions.

The attorney general said the substitute plan offered by Rep. James Broyhill (R-NC) "is the antithesis to Luken-Lee and would clearly give the FTC new authority. I urge Congress not to grant the FTC power to pre-empt state laws."

In the ophthalmic case, Federal Appeals Court Judge Carl McGowan wrote that the FTC in issuing regulations "has at least approached the outer boundaries of its authority and may have infringed" on states rights to regulate activities.

Meantime, the Administration formally supported the Broyhill Amendment. Vice President George Bush wrote Broyhill a letter to "reaffirm and reemphasize the Administration's support. . . ."

* * * *

Blue Cross and Blue Shield Association in a major expansion of its Medical Necessity Program has provided its member plans with guidelines to eliminate unnecessary use of respiratory care.

About 25 per cent of all hospital inpatients receive respiratory therapy, one of the fastest growing components of hospital care, with cost estimated as high as $4 billion a year. In making the announcement, the Association said implementation of the guidelines could save hundreds of millions of dollars annually in respiratory therapy costs.

The guidelines, which were approved by the Association's Board of Directors, also have the endorsement of several national medical organizations within their specialty areas. These are the American College of Physicians (ACP), the American College of Surgeons (ACS), and the American Academy of Pediatrics (AAP).

The guidelines establish definitive criteria for respiratory therapies to help assure quality patient care by ascertaining that the correct procedure is used on the right patient at the proper time.

Procedures covered by the guidelines—all of which can be an effective part of patient care—include intermittent positive-pressure breathing (IPPB), limited and complete pulmonary function tests (PFTs), incentive spirometry, postural drainage, aerosol therapy, arterial blood gas analysis, and oxygen therapy, according to the Blue Cross-Blue Shield Association.

"The respiratory therapy guidelines are intended to raise the level of cost-consciousness of our subscribers, physicians and hospitals," said Bernard R. Tresnowski, President of the Association, the coordinating agency for the nation's 103 Blue Cross and Blue Shield Plans.

"Any effort which helps control costs without lowering the quality of care will benefit everyone."

Tresnowski emphasized that the Medical Necessity Program, which previously dealt with outmoded or unproven procedures and tests as well as routine hospital admission batteries, does not mean a reduction in benefits or immediate denial of claims for subscribers. Rather, he said, "Plans will watch patterns of utilization on a hospital-by-hospital basis, and seek changes in these patterns where necessary."

The program is designed, he added, to assure that care received by patients is not only the best available but also the most cost effective.

Commenting on the program, William Y. Rial, M.D., AMA President said the Association has reviewed a preliminary version of the guidelines on respiratory therapy and has found them to be useful and reliable recommendations.

The new guidelines spell out specific circumstances when use of the various respiratory procedures is appropriate or should be limited. They also identify circumstances when payment for routine use will be limited in the absence of special justification.

For example, many patients routinely undergo preoperative pulmonary screening, which includes a complete battery of pulmonary function tests, for possible pulmonary disease without regard for either symptoms or history. Under the guidelines, Plans are advised not to pay for PFTs unless the patient has a known pulmonary problem, has a history of smoking or an occupational history which might suggest the possibility of lung disease, or unless other special circumstances are identified.

When oxygen therapy is prescribed, documentation of need would be required after certain prescribed time periods of usage for continuation of the therapy in acute myocardial infarctions or other medical emergency situations such as pneumonia, pulmonary embolisms, heart failure, drug overdoses or hepatic failure.

Current Medicolegal Issues

THE CITATION—AMA

Emergency Room Physician Negligent in Care of Auto Accident Victim

An emergency room physician and the emergency group that employed him were liable for the wrongful death of a patient who died of injuries after an automobile accident, the Alabama Supreme Court ruled.

The patient was injured on October 15, 1978, in a two-car accident. He was taken to the hospital emergency room, complaining of pain in his chest, side and lower back. The ER physician ruled out the possibility of broken bones, collapsed lungs, contused lungs or bleeding around the lungs and ruptured abdomen. He also ruled out a ruptured spleen. He prescribed Dolene-AP for the pain, but sent the patient home with no follow-up instructions about what to do if complications later developed. That night the patient vomited and discontinued the medication.

The next morning he was taken back to the emergency room and was diagnosed by his own physician as suffering from internal bleeding and shock. Shortly after being admitted he lost consciousness and CPR efforts failed to revive him. The autopsy report indicated that although he had a severely diseased heart, death most likely resulted from a chain of events precipitated by an initial loss of blood from a ruptured spleen, which culminated in respiratory arrest.

The patient's wife filed suit for wrongful death against the hospital, the ER physician and his employer, the emergency group. The hospital was later dismissed as a defendant. A jury found for the wife and returned a verdict for $100,000.00. The physician and the group then appealed.

Affirming that decision, the Supreme Court said that there was sufficient evidence of negligence in diagnosis and failure to provide follow-up instructions from which the jury could infer that the alleged negligence was the proximate cause of the patient's death. Although the defendant physician contended that the spleen was ruptured as a result of CPR, both the pathologist who performed the autopsy and the patient's family physician testified that they had never encountered a ruptured spleen from CPR. Further, expert testimony confirmed that the extensive lacerations on the spleen were consistent with blunt trauma, such as the impact of the steering wheel on the patient, the court said.

In addition, the court said, the record abounds with expert testimony to the effect that proper follow-up instructions were crucial and that the patient should have been hospitalized. The judgment for the widow was affirmed.—*Murdoch v. Thomas,* 404 So. 2d 580 (Ala. Sup. Ct., Aug. 28, 1981; rehearing denied, Sept. 25, 1981)

Attorney Who Loses Legal Malpractice Suit Cannot Sue Physician for Indemnity

An attorney who was liable for legal malpractice had no claim for indemnity from a physician whose alleged malpractice was the basis of the legal malpractice claim, the Minnesota Supreme Court ruled.

A patient successfully sued an attorney for legal malpractice and was awarded $649,500 in damages. The legal malpractice involved negligence advice the attorney provided the patient concerning the medical malpractice claim against the physician. As a result of the negligent advice, the patient failed to proceed against the physician before the statute of limitations had expired.

In the attorney's suit against the physician for contribution or indemnity, the trial court ordered the complaint dismissed for failure to state a claim, and the attorney appealed.

Affirming the decision, the Supreme Court said that the attorney had no claim against the physician. The physician and the attorney committed separate and distinct torts and committed them at separate times, the court noted. They were not jointly liable for either the medical malpractice or the legal malpractice at any point in time, the court said.

There was no reason to modify common law liability to allow the attorney to recover contribution from the physician. A decision in favor of the attorney would largely undercut the efficacy of the two-year statute of limitations for medical malpractice claims. It would also immunize lawyers as a group from legal malpractice suits based on facts similar to these, the court said.—*Vesely, Otto, Miller & Keefe v. Blake,* 311 N.W. 2d 3 (Minn. Sup. Ct., Oct. 16, 1981)

Hospital Can Require Surgery Residency Before Heart Surgery Program, Court Rules

A hospital could properly require 48 months of allopathic general surgery residency before physicians could enter a training program for heart surgeons, an Arizona appellate court ruled.

An osteopathic physician was admitted to a private training program as a fellow of the Arizona Heart

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Institute. The training program used the facilities of a private hospital, which required 48 months of allopathic general surgery training before physicians could participate in the training program. The osteopath did not meet that requirement and was prohibited from participating in the training program. The osteopath filed suit against the hospital for an injunction preventing the hospital from enforcing its residency requirement.

On appeal from denial of a preliminary injunction, the appellate court affirmed the decision. The court said that it could not second guess what standards a private hospital may set in determining admission to training programs. The court determined that the qualifications were reasonable and not arbitrary and capricious.

The osteopath contended that her osteopathic residency was equivalent to the allopathic standards set by the hospital. The court said that the evidence did not support that equivalency. She did not possess a full year as a senior/chief resident. Her postgraduate residency was described as a "hopscotch" rather than a continuum of experience. Further, she did not stay in the same program for the last two years and her residency experience in the peripheral vascular system was inadequate, the appellate court said.

The resident contended that the review of her residency experience was an afterthought. However, the court noted that the relief she had requested was that her application be judged on its merits, rather than based upon labels. "In the final analysis, this is exactly what [she] received at the hearing in this matter," the court said.—*Reiswig v. St. Joseph's Hospital and Medical Center,* 634 P. 2d 976 (Ariz. Ct. of App., Aug. 13, 1981; rehearing denied, Sept. 30, 1981; review denied, Oct. 20, 1981)

Hospital's Rule That Radiologists Read X-rays not Unlawful, Court Says

A hospital requirement that a radiologist review all X-rays taken in the hospital was not an unlawful price-fixing or tying agreement, an Indiana appellate court ruled.

A minor patient was injured in a motorcycle accident and taken to a hospital for treatment. X-rays of his right wrist were taken, and a fracture of his wrist was treated by an orthopedic surgeon. A radiologist reviewed the X-rays that evening and officially confirmed the diagnosis. The radiologist reviewed the X-rays pursuant to hospital policy, which required that each X-ray taken be interpreted by a qualified physician competent in all aspects of radiological services.

All the radiologists who practiced at the hospital were shareholders of a medical corporation. The radiologists did not order the X-rays to be taken, but only interpreted X-rays ordered by other physicians. A bill of $23.50 from the medical corporation was sent to the patient's father, who refused to pay it. A trial court ordered the father to pay the bill, and the father appealed.

Affirming the decision, the appellate court said that the hospital's policy did not violate the patient's right of privacy or the father's right to direct his son's medical treatment. The appellate court rejected the father's contention that the agreement was an exclusive contract that established an illegal monopoly and tying arrangement. The court said there was no evidence that the medical corporation had an exclusive contract. Since it was a nonexclusive agreement, it did not amount to an agreement to fix prices nor give the medical corporation any unlawful monopoly over the interpretation of X-rays at the hospital, the court said.—*Rumple v. Bloomington Hospital,* 442 N.E. 2d 1309 (Ind. Ct. of App., July 13, 1981)

Court Reduces Award in Wrongful Death Suit

A verdict of $750,000 in a malpractice and wrongful death action should be reduced by $372,500, a New York appellate court ruled.

The patient stepped into a street from between two parked cars. He was struck by an automobile and taken to a hospital. A variety of tests were performed, including skull X-rays, but a lineal skull fracture was not discovered. When the patient was released, he was not given the instruction sheet normally issued to patients who suffered head injuries. The instruction sheet warned them to be watchful for certain symptoms such as dizziness or headaches and to report back for treatment if symptoms arose.

The patient suffered from headaches and dizziness for eight weeks and returned to the same hospital with symptoms of headaches, dizziness and trembling. No diagnostic tests were performed and no emergency service given. He died three days later. An autopsy revealed subdural hematoma and hemorrhages at least six weeks old at the time of his death.

The driver of the car that struck him settled a lawsuit against him for $18,500. A jury returned a verdict of $750,000 against the hospital, and it appealed.

On appeal, the court ordered the amount reduced by $320,000, which represented loss of consortium. The court also erroneously awarded $80,000 for loss of services to the date of trial. Since the patient died several years before the trial, an award of $2,500 for loss of services from the date of the accident to the date of death eight weeks later was appropriate. Finally, the court said the award for loss of future earnings was excessive in light of the patient's age and life expectancy. A reduction of $110,000 was appropriate, the court said.—*Yuet Ngor Chang v. New York City Health and Hospitals Corporation,* 440 N.Y. S. 2d 211 (N.Y. Sup. Ct., App. Div., June 18, 1981)

Opportunistic Infections and Kaposi's Sarcoma among Haitians in the United States

CENTERS FOR DISEASE CONTROL

Reports of opportunistic infections and Kaposi's sarcoma among Haitians residing in the United States have recently been received at CDC. A total of 34 cases in 5 states have been reported to date.

Florida

From April 1, 1980, through June 20, 1982, 19 Haitian patients admitted to Jackson Memorial Hospital, Miami, had culture, biopsy, or autopsy evidence of opportunistic infections, and 1 other patient had biopsy- and autopsy-confirmed Kaposi's sarcoma. The infections identified included *Pneumocystis carinii* pneumonia (6 patients), cryptococcal meningitis or fungemia,^{4} toxoplasmosis of the central nervous system (CNS),^{7} *Candida albicans* esophagitis^{7} and thrush,^{5} esophageal or disseminated cytomegalovirus infection,^{3} progressive herpes simplex virus infection,^{1} disseminated tuberculosis,^{8} and chronic enteric *Isospora belli* infection.^{2} Fourteen patients had multiple opportunistic infections. Three patients had recurring infection. The clinical course has been severe; 10 patients have died. The type of infection was initially recognized at autopsy for 6 patients.

The 20 patients ranged in age from 22 to 43 years (mean 28.4 years); 17 were males. All the patients had been born in Haiti and had resided in the Miami-Dade County area for periods ranging from 1 month to 7 years (median 20.5 months).

When initially seen, 18 of the 20 patients had peripheral lymphopenia ($<$1,000 lymphocytes/mm^{3}). Skin tests performed on 17 patients with various combinations of tuberculin, mumps, streptokinase/streptodornase, *Candida,* and *Trichophyton* antigens were all negative. Immunologic studies at CDC on specimens from the 11 patients tested showed severe T-cell dysfunction. Monoclonal antibody analysis of peripheral-blood T-cell subsets revealed a marked decrease of the T-helper cell subset with inversion of the normal ratio of T-helper to T-suppressor cells.

Of the 7 patients with histologically confirmed toxoplasmosis of the CNS, 5 have died. Because there was no history of underlying conditions or drugs associated with immunosuppression, CNS toxoplasmosis was not considered in the premortem diagnosis of the first 4 cases. Pathology findings for all these patients were confirmed with an immuno-peroxidase method for toxoplasmosis and, in one instance, with electron microscopy as well. Tachyzoites were the predominant form of the parasite observed; encysted forms were rare or absent in many tissue blocks.

In addition to the 20 cases reported from Miami, a Haitian female from Naples, Florida, was reported to have *P. carinii* pneumonia.

New York

From July 1, 1981, through May 31, 1982, 10 Haitian residents of Brooklyn were diagnosed as having the following opportunistic infections: *P. carinii* pneumonia (5 patients), CNS toxoplasmosis,^{2} disseminated cryptococcosis,^{1} esophageal candidiasis,^{1} and disseminated tuberculosis.^{2} None had any underlying disease or history of therapy known to cause immunosuppression. Five died of their infections.

All 10 patients were males and ranged in age from 22 to 37 years. Eight stated they were heterosexual; the sexual orientation of the other 2 was not known. One patient gave a history of intravenous (IV) drug abuse; 8 denied drug abuse, and for 1, no information was available on drug use. The 10 had resided in the United States for periods ranging from 3 months to 8 years (the majority, for 2 years or less). At least 1 patient had onset of illness before arriving in the United States. Immunologic studies performed at CDC on specimens from 2 patients showed results comparable to those for the 11 patients from Miami.

Other States

Opportunistic infections or Kaposi's sarcoma were also reported for 3 other Haitians located in California, Georgia, and New Jersey. All 3 were heterosexual males who denied IV drug abuse. One patient had *P. carinii* pneumonia, another had Kaposi's sarcoma, and the third had esophageal candidiasis.

Reported by GT Hensley, MD, LB Moskowitz, MD, AE Pitchenik, MD, MA Fischl, MD, SZ Tabei, MD, P Kory, MD, MJ Post, MD, FK Conley, MD (Stanford University School of Medicine), G Dickinson, MD, D Becker, MD, A Fournier, MD, M O'Connell, MD, G Scott, MD, University of Miami School of Medicine, RA Morgan, MD, JQ Cleveland, MD, Dade County Health Dept, H Tennis, Metropolitan Dade County, HT Janowski, MPH, RA Gunn, MD, State Epidemiologist, Florida Dept of Health

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Morbidity and Mortality Weekly Report, July 1982, H.E.W. Public Health Service, Atlanta, GA.

and Rehabilitative Svcs; J Viera, MD, S Landesman, MD, E Frank, MD, J Nadler, MD, Kings County Hospital, SUNY Downstate Medical Center, Brooklyn, C Metroka, MD, T Nash, MD, New York Hospital, SM Friedman, MD, DJ Sencer, MD, New York City Dept of Health, R Rothenberg, MD, State Epidemiolgist, New York State Dept of Health; T Howard, MD, Cedars-Sinai Medical Center, M Gottlieb, MD, UCLA Medical Center, S Fannin, MD, Los Angeles County Dept of Health Svcs, J Chin, MD, State Epidemiologist, California Dept of Health Svcs; R Kapila, MD, New Jersey College of Medicine and Dentistry, IC Guerrero, WE Parkin, DVM, State Epidemiologist, New Jersey Dept of Health; J Hawkins, MD, Medical College of Georgia, RK Sikes, DVM, State Epidemiologist, Georgia Dept of Human Resources; Div of Parasitic Diseases, Div of Host Factors, Center for Infectious Diseases, Field Svcs Div, Epidemiology Program Office, Task Force on Kaposi's Sarcoma and Opportunistic Infections, CDC.

Editorial Note

The occurrence of severe opportunistic infections among 32 Haitians recently entering the United States is a new phenomenon. The in vitro immunologic findings and the high mortality rate (nearly 50%) for these patients are similar to the pattern recently described among homosexual males and IV drug abusers.[1-4] None of the 23 Haitian males questioned reported homosexual activity, and only 1 of 26 gave a history of IV drug abuse—substantially lower than the prevalence reported for heterosexual patients of other racial/ethnic groups who had Kaposi's sarcoma or opportunistic infections. Of the 34 patients discussed above with opportunistic infections or Kaposi's sarcoma, 30 (88%) were males. All patients were between 20 and 45 years of age. Data from medical screening of 10,780 Haitians entering the United States between March and November 1980 indicated that 73% were adult males. Only 2% of those screened were <12 years old, and over 90% were <45 years old.[5]

The occurrence of opportunistic infections among adult Haitians with no history of underlying immunosuppressive therapy or disease has not been reported previously. However, 11 cases of disseminated Kaposi's sarcoma have been diagnosed by dermatologists in Port au Prince, Haiti, over a period of 2½ years.[6] The reason for the high prevalence of disseminated tuberculosis among the group of patients discussed above is not known; but a high prevalence of tuberculosis has been documented among recent Haitian entrants,[7] and the disease has been reported to disseminate more frequently among persons who are immunocompromised.[8, 9]

To date, it has not been established whether the cases of toxoplasmosis represent reactivation of old lesions acquired in Haiti or whether they are progressive primary infections acquired in the United States. However, serum specimens obtained from 2 patients in Miami and tested at CDC by indirect immuno-fluorescence (IIF) were negative for IgM antibody to *Toxoplasma.* This suggests that the infections of these 2 patients were not recently acquired. Serologic tests such as the IIF may be helpful in establishing or excluding a diagnosis of toxoplasmosis for patients with CNS symptoms. Tachyzoites in tissue specimens can be visualized more effectively using Giêmsa stain or a recently developed immuno-peroxidase method[10] than with the standard hemotoxylin and eosin staining.

It is not clear whether this outbreak is related to similar outbreaks among homosexual males, IV drug abusers, and others, but the clinical and immunologic pictures appear quite similar. CDC is currently collaborating with local investigators to define this problem and identify risk factors.

Physicians who care for Haitian patients should be aware that opportunistic infections may occur in this population. Health-care providers who diagnose opportunistic infections or Kaposi's sarcoma among persons who do not have underlying disease and are not on immunosuppressive therapy are requested to report such cases to CDC through their appropriate state and local health departments.

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The President's Page

Partners in Professionalism

The Connecticut State Medical Society takes great pride in its lengthy and particularly close relationship with the American Medical Association. When physicians gathered together at two national conventions for the purpose of forming a national medical association, a CSMS officer served as President of those conventions.

Connecticut physicians realized then, as they do now, that their voice and actions must extend nationwide. They knew that their efforts to prevent the erosion of professional independence and to protect the public health must be linked with similar efforts of physicians in other states. And they knew this unity of purpose and action could be effected only through a national organization representing *all* physicians.

The AMA's primary purpose has remained unchanged from the days of its founding: "To promote the science and art of medicine and the betterment of public health." Similarly, the mutuality of purpose and effort between CSMS and AMA has also remained unchanged.

In the legal battle over the FTC's right to regulate the professions, AMA, CSMS, and the New Haven County Medical Association stood together as co-defendants in the original complaint brought by the FTC. And AMA continued the battle on behalf of physicians in Connecticut and every other state by directing financial, staff and legal resources toward exempting the medical profession from FTC authority.

This is only one of many examples illustrating AMA's efforts to preserve the right and freedom of physicians to practice medicine in accordance with our best medical judgment and our patients' interests—to preserve, in a word, our *professionalism.*

The AMA deserves your support. If you are already an AMA member, please renew your membership when you receive your 1983 dues invoice next month. If you belong to CSMS, but not AMA, please extend your commitment to include the only medical association that addresses the concerns of all physicians throughout the country—the American Medical Association.

Gioacchino S. Parrella, M.D.
President

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Reflections from the Dean's Office

How Much Is Too Much?

ROBERT U. MASSEY, M.D.

In any discussion of medical care, medical science, medical technology, or medical education, the matter of costs comes finally to dominate. The nation is now spending nearly ten percent of its gross national product on goods and services having to do with the care of the sick or the worried well. As inevitable as the discussion itself is the question which someone is certain to ask: who said that ten percent is too much?

Who indeed? Each society has its own uncertain list of what is important, a sum, adjusted by the guardians, of what each individual at the time values most. Health and happiness are generally at the top of the list, but that is of little help; our definitions vary, and few of us would agree on how we should achieve either. How much money or energy a society is prepared to devote to something must somehow be related to what each member thinks is important or valuable. By keeping track of what people buy, we may draw some conclusions about what they value, but only if they have resources to spend beyond those needed for the necessities of life.

"Where the love of humanity is, there also is love of the Art."[1]

Where there are devoted and skillful teams of nurses, social workers, therapists, and physicians, patients with disabling neuromuscular diseases may receive the kind of care that will enable them to live at home with their families in reasonable comfort. Where there is a Hospice program, or a home care team, patients and their families may be helped through the final stages of terminal illness. But even where the care of the disabled, the elderly, the chronically or terminally ill is the best we know how to provide, money is always scarce and the facilities barely adequate. What about those places where these programs have never been started or even thought of? Or those places where we should rather not be when someone we love is injured or taken seriously ill? How much more than ten percent of our national treasure is needed to care for all patients with multiple sclerosis or muscular dystrophy in the way they are cared for in the best centers? Add to that the costs of tending to all the illness and disability which we now barely acknowledge.

The caring part of medicine has always been expensive, and it may cost even more as our science gets better and our technology more effective. There will be more of us around, and we shall on the whole be older. It is no good saying that we must learn where to draw the line, when to stop caring, nursing, comforting, and rehabilitating. We could only do that if we had lost our love for humanity, and then society would hardly be worth saving. It would not survive in any case.

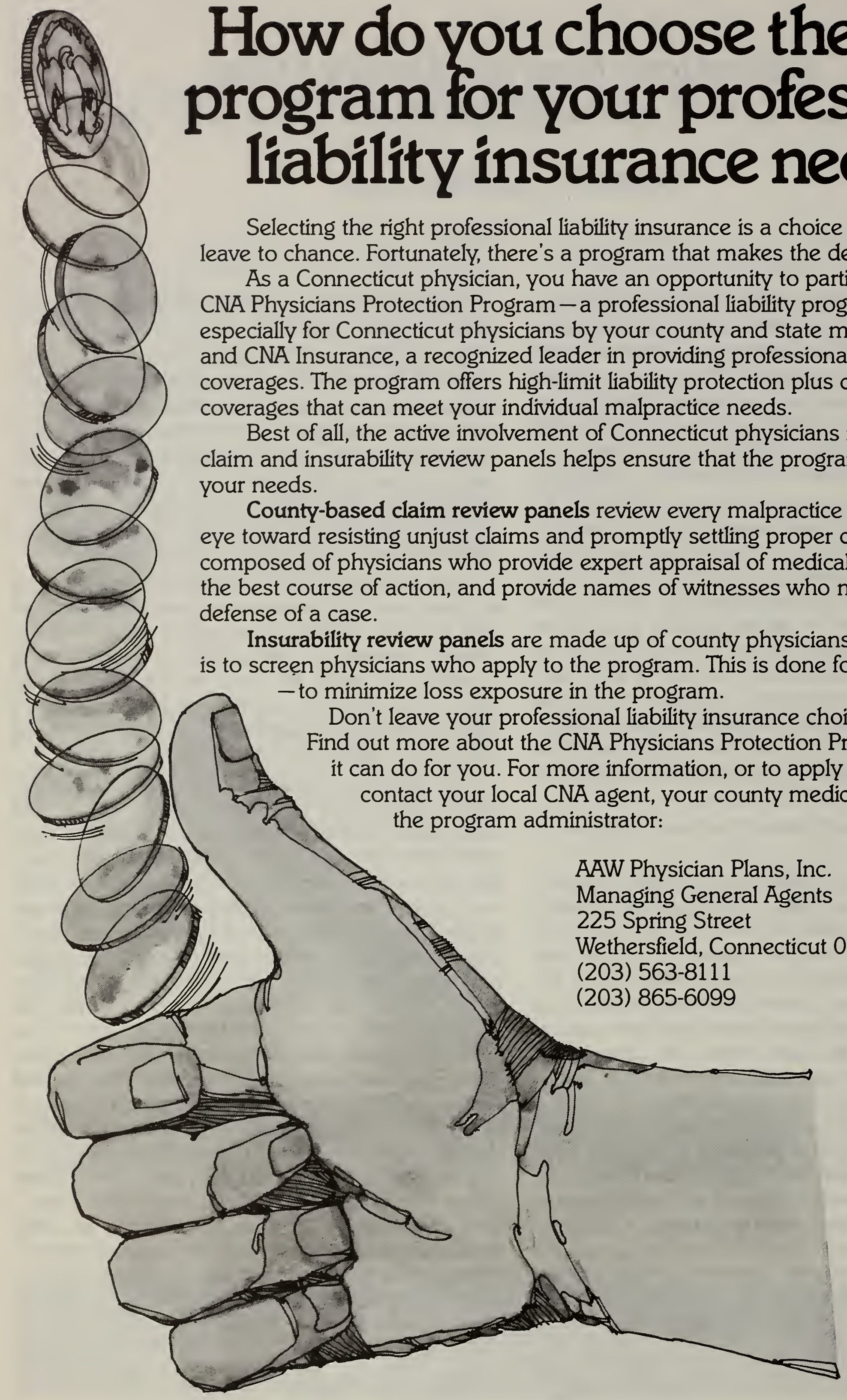
Some have argued that the demand for medical care is infinite, and that unless we can control the costs, we shall soon be devoting almost all of our human and material resources to looking after our health. That is nonsense, of course. But since we are, I believe, by nature benevolent, we shall spend what we need to spend to see that our neighbor is cared for. The lesson of the good Samaritan is the lesson of survival.

Our task as physicians is to point out where the system has gone wrong: where there is misuse, bad management, and poor workmanship; where skill and compassion are wanting; where the care of the patient has taken second place to some other value; or when more is spent to destroy life than to save it. To do that we shall have to work closely with insurance executives, hospital administrators, government bureaucrats, and politicians; they do not know what to do, but they intend to try, with our help or without it. They are hatching all sorts of schemes for holding down some costs, but none for improving or extending care; meanwhile, more and more of our medical services and institutions are being managed for profit rather than out of any love of humanity. There is the possibility in the short run of serious damage if the art of medicine should turn into the health care industry, and the legitimate claims of stockholders outstrip the needs of the chronically and seriously ill. If we are returning, as some predict, to two standards of medical care, it is our task as physicians to see to it that the least expensive is by all odds the best, and that the best is available to everyone who needs it.

REFERENCES

1. Hippocrates, Precepts IV.

ROBERT U. MASSEY, M.D., Professor and Dean, School of Medicine, University of Connecticut Health Center, Farmington.



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Termination of the Doctor-Patient Relationship

JOSEPH M. HEALEY, J.D.

Physicians occasionally find themselves in an uncomfortable situation in which they are providing care to a patient whose attitude or conduct interferes with the exercise of clinical judgment and the maintenance or restoration of the patient's health. In such situations, physicians are often unclear about the extent to which they have the legal authority to terminate their professional relationship with the patient. At issue is the nature of the contractual aspect of the doctor-patient relationship. A recent California case, *Payton v. Weaver*[1] provides an opportunity to examine the legal principles governing these complicated situations.

Brenda Payton was a 35-year-old woman suffering from chronic end-stage renal disease. She received hemodialyses on an outpatient basis three times a week at an Oakland hospital. Ms. Payton lives alone in a low-income housing project and, in addition to her kidney problem, had been addicted to heroin and barbiturates for over 15 years. Apparently, she also had problems with alcohol. Dr. John Weaver, a kidney specialist, began treating Ms. Payton in 1975 and in December, 1978 sent her a letter stating that she would no longer be treated at the dialysis center because of her "persistent uncooperative and antisocial behavior." Ms. Payton applied for admission to regular dialysis programs at two local hospitals but was refused. Dr. Weaver continued to provide care to her on an emergency basis. In April, 1979, he sent a second letter terminating his relationship with her. Ms. Payton filed suit, seeking a court order to compel continuation of treatment. A settlement was reached under which Ms. Payton agreed to improve her conduct by keeping her appointments, by refraining from the use of alcohol and drugs, by maintaining dietary restrictions, and by cooperating with her health care providers in all respects. Dr. Weaver continued to provide treatment until March 3, 1979 when, contending that Ms. Payton had failed to fulfill any of her stipulations, he once again notified her in writing that her treatment would be terminated. Ms. Payton instituted a second legal action alleging that Dr. Weaver, the dialysis center, and the hospitals which had refused to accept her as a patient were violating her rights by failing to provide "emergency" treatment as required by statute and by discriminating against her on the basis of race and indigency.

The trial court denied her petition. It found that Ms. Payton had not kept her part of the stipulations and, in fact, had engaged in gross noncooperative behavior. The court concluded that Dr. Weaver had properly discharged his obligations to her and that the hospitals had not violated her rights by failing to provide her the care she requested. A stay of the court's judgment was entered to permit Ms. Payton to appeal the decision. The appellate court upheld the trial court decision, finding that the doctor had behaved according to the highest standards of his profession. The court discussed at some length whether the hospitals had some type of collective responsibility to share the burden of disruptive patients but failed to use it as the basis for reversing the lower court. At the conclusion of the opinion, the court encouraged Ms. Payton to seek a voluntary conservator who would seek to provide continuation of her treatment.

In reflecting upon this decision, it is important to remember that it is not a decision by California's highest court. As such, it does not represent a clear precedent even in the State of California. Nevertheless, what is interesting about the case is the extent to which it acknowledges the important right of health care providers to terminate the provider-patient relationship under appropriate circumstances. Health care providers have a right to terminate their relationship with a patient but are obliged to do so in a manner consistent with the best interests of the patient. Written communication with the patient, describing the termination and providing a time period within which the patient should obtain a new health care provider, is one way to achieve this.

Discussion of the contractual dimension of the doctor-patient relationship will continue next month.

JOSEPH M. HEALEY, J.D., Associate Professor, Department of Community Medicine and Health Care, University of Connecticut School of Medicine, Farmington.

REFERENCES

1. Payton v Weaver, 182 Cal Rptr 225 (1982).

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Connecticut State Medical Society

Early in 1983 the Councilors from the eight constituent county medical associations assume the responsibility of selecting members of the Society to participate in the various activities of the Society listed below. In making these selections it is of importance to choose physicians who are not only willing and able to serve but also who are known to have an interest in the work of the group to which they may be assigned. In order to enable this office to furnish the Councilors with a compilation of those who desire to be considered for committee service, all members are asked to indicate by number in order of preference (not more than three) opposite your choice in the questionnaire below and return same to the:

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160 St. Ronan Street
New Haven, CT 06511

Your cooperation will be appreciated.

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Medical Economics

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☐ Committee on Professional Liability
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☐ Committee on Public Relations

Scientific and Socio-Environmental Medicine

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☐ Cancer Coordinating Committee
☐ Committee on Drug Abuse Educational Programs
☐ Committee on Maternal Morbidity and Mortality
☐ Committee on Medical Aspects of Sports
☐ Committee on Mental Health
☐ Committee on Organ and Tissue Transfers
☐ Committee to Study Perinatal Morbidity and Mortality
☐ Committee on Public Health
☐ Committee on Continuing Medical Care and Rehabilitation
☐ Committee on Statewide Medical Planning

Representatives and Advisors

☐ Committee on Allied Medical Services
☐ Committee on Hospitals
☐ Committee on Cooperation with the Medical Schools of Connecticut
☐ Liaison Committee with Connecticut Pharmaceutical Association
☐ Liaison Committee with State Department of Income Maintenance
☐ Representatives to Connecticut Advisory School Health Council
☐ Delegates to Connecticut Public Health Association, Inc.
☐ Delegates to Connecticut Nutrition Council
☐ Delegates to Council of New England State Medical Societies

Please Return by January 10, 1983

Signed: ______________________________ M.D.
(Please Print)

Office Address: ______________________________

____

IN MEMORIAM

ABRAHAMSON, ROBERT H., McGill University Medical School, 1930. Dr. McGill was a surgeon in the Fairfield area since 1946. He was a Lieutenant Commander in the U.S. Navy from 1941 to 1946. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Abrahamson died August 31, 1982 at the age of 79.

BELLWIN, ALEXANDER, New York University College of Medicine, 1945. Dr. Bellwin was a Obstetrician/Gynecologist in the Fairfield area since 1953. He served as a captain in the U.S. Army from 1946-1948. He was a member of the Connecticut Society of American Board of OB/Gyn, the Fairfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Bellwin died August 21, 1982 at the age of 60.

HERMAN, EUGENE B., Berne Medical School, 1956. Dr. Herman was a general practitioner in the Fairfield area since 1957. He served in the U.S. Army from 1942-1946 and was a senior member of the medical staff of Norwalk Hospital. He was a member of the Fairfield County Medical Association and the Connecticut State Medical Society. Dr. Herman died September 2, 1982 at the age of 58.

KIM, CHANGHO A., Kyungpook University School of Medicine, Korea, 1958. Dr. Kim was a radiologist in the New London area since 1971. He was a member of the New London County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Kim died September 9, 1981 at the age of 47.

MANNING, IMOGENE H., Womens Medical College, 1950. Dr. Manning was a pediatrician in the New London area since 1951 and was school medical advisor in Lebanon from 1953 to 1973, was Lebanon health officer from 1962 to 1966, was active in the Lebanon Historical Society from 1966 to 1982 and served on the advisory committee for Community Health Care Service, Inc. She was also a member of the New London County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Manning died August 26, 1982 at the age of 73.

PELZ, KURT S., Vienna Medical School, Austria, 1932. Dr. Pelz was a general practitioner in the New Haven area since 1938. He entered the Army Medical Corps in February 1943 and left the corps as a major, having won the Bronze Star and a Purple Heart. He was president of the New Haven County Medical Association in 1969 and chairman of its censors and review committee in 1961, and a member of the American College of Hospital Administrators since 1962 and the council of the Connecticut State Medical Society from 1966 until retirement. He was a member of the New Haven County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Pelz died September 8, 1982 at the age of 78.

ROSENBERG, HANS A., Vienna Medical School, 1937. Dr. Rosenberg was a general practitioner in the Fairfield area since 1943. He was a member of the Fairfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Rosenberg died in June, 1982 at the age of 74.

TOMAINO, FELIX F., Yale Medical School, 1929. Dr. Tomaino was a surgeon in the Fairfield area since 1929 until his retirement in 1981. He was a Fellow of the American College of Surgeons and a member of the Fairfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Tomaino died August 28, 1982 at the age of 77.

WARNER, CHARLES N., JR., Tufts Medical School, 1936. Dr. Warner was a obstetrician in the Litchfield area since 1938. He was a former chief of obstetrics at Charlotte Hungerford Hospital and a staff member at the hospital for 43 years, serving on both the medical and obstetrics staffs. Prior to his retirement in 1981, he had conducted a family practice in Litchfield since 1938 and had delivered more than 3,000 babies. He was a member of the Litchfield County Medical Association, the Connecticut State Medical Society and the American Medical Association. Dr. Warner died September 26, 1982 at the age of 76.

FROM THE EXECUTIVE DIRECTOR'S OFFICE

160 St. Ronan Street, New Haven, Conn. 06511 Telephone 865-0587

Timothy B. Norbeck, *Executive Director*
Josephine P. Lindquist, *Associate Executive Director*

Francis G. Sweeney
Assistant Executive Director
Public Affairs

Robert J. Brunell
Assistant Executive Director
Scientific Activities

Richard J. Fiorentino
Coordinator
Special Services

Council Meeting

Wednesday, October 20, 1982

Attendance

Present were: Drs. Parrella, Doctor, Whalen, Jr., Mendillo, Sadowski, Hecklau, Canzonetti, Friedberg, Van Syckle, Abbot, Petrie, Orphanos, Kaess, Eslami, Barrett, Villa, Ragusa, Sullivan, Jr., Ahrens, Reyelt, Jr., McDonnell, Czarsty, Bobruff and Sharon.

Also present: Mr. Norbeck, Mrs. Lindquist, Mr. Brunell, Mr. Fiorentino, Mr. Tomat (FCMA), and Mrs. Sandler (President, Auxiliary).

Absent were: Drs. Zlotsky, Hess, Rubinow, Concannon, Hayes, Beck, Fabro and Sweet.

Approval of Minutes

It was VOTED to approve of the minutes of the meeting of September 2, 1982, as published and distributed.

Report on State and Federal Agencies

Dr. Eslami reviewed the objectives of the Ambulatory Procedures Technical Advisory Group of the Statewide Health Coordinating Council (SHCC). He noted that at its first meeting in October, the group discussed existing ambulatory surgery definitions, development of a "guideline" listing of ambulatory procedures by particular setting, that would have qualifiers for medical staff, physicians and facility options. The issue of cost and charge data for both inpatient and free-standing facilities was also discussed. Dr. Eslami informed members that future issues to be examined by this group will include diagnostic testing on an outpatient basis as an alternative to inpatient testing and forecasting models for estimating future ambulatory procedures impact upon inpatient care.

Dr. Mendillo reported on his efforts with the HMO Study Group of the SHCC, indicating that the main reason for the study is to show the impact of HMOs on hospital beds in Connecticut.

In another area, Dr. Mendillo noted that PSRO II had been refunded to October, 1983 due to the passage of the Durenberger Bill on September 2nd.

Mr. Fiorentino, CSMS Staff, summarized his report on the Waxman-Madigan Health Planning Bill, and the designation status of the State Health Planning Development Agency, as it relates to compliance with federal Certificate-of-Need Regulations.

Report of the President

President Gioacchino S. Parrella, M.D., reported on the following items:

a. A meeting held with AMA officials and subsequent visits with Connecticut federal legislators pertaining to FTC legislation.
b. Attendance at a meeting held by the Department of Defense in September which discussed DOD plans for the Civilian-Military Contingency Hospital System in the event of a conflict involving conventional weapons.
c. The meeting of the Council of New England Medical Societies which met in Providence in September.
d. Formalization of the CSMS Committee on the Impaired Physician.
e. A situation involving four physicians who had difficulty in securing professional liability insurance coverage. CSMS efforts helped all four obtain coverage.
f. The Statewide Medical Planning Committee report on the proposal for a Statewide Utilization Review Program. The report was discussed in a subsequent agenda item.
g. Guidelines for Withholding Emergency Resuscitation from Terminally Ill Patients. This item was discussed subsequently under the Miscellaneous section.
h. A meeting held by CSMS officers and staff with Health Commissioner Lloyd. Following discussion of the meeting, it was VOTED to authorize the President and Chairman of the Council to coordinate activities of the Public Health and Legislation Committees in order to provide for physicians testifying on block grants. It was also agreed to invite the chairman of the Public Health Committee, Thomas Draper, M.D., to attend the next meeting of the Council.

SHCC Vacancy

At the request of the Governor's office, it was VOTED to nominate Drs. Orvan W. Hess, North Haven, and Frank K. Abbot, Hartford, one of whom will be appointed by the Governor to fill the SHCC vacancy caused by the resignation of Morris J. Seide, M.D., Hartford.

Report of Fiscal Subcommittee RE Budget for 1983

John Mendillo, M.D., Treasurer, presented a report on the proposed budget for 1983. Following an analysis of the budget, it was VOTED to approve the budget submitted by the Fiscal Subcommittee, as presented. It was further VOTED to approve the Fiscal Subcommittee's recommendations that the dues remain at $150.00 and to transmit the budget to the House of Delegates with Council recommendation for approval by the House.

Membership of AMA Councils

It was agreed to allow the mechanism within the Council of New England Medical Societies to select candidates for AMA Councils, but anyone wishing to offer a nominee is encouraged to submit the name to Guy W. Van Syckle, M.D.

Report of Committee on Statewide Medical Planning

Dr. Jerome Freedman, Chairman of the subject committee, joined the Council to supplement the Revised Draft of "A Proposal For A Statewide Utilization Review Program," which had been distributed with the Council agenda. After extensive discussion, including the review of the program, the Durenberger Bill and legal counsel opinion, the Council VOTED to:

1. Authorize the Committee on Statewide Medical Planning to proceed with the initial stages of implementation which is the drafting of the Bylaws for the Utilization Review Organization with the aid of CSMS Counsel and Connecticut Hospital Association Counsel.
2. Appoint two (2) physicians to represent CSMS on the interim steering committee as detailed on p. 7, step 1, of the proposal: Drs. Canzonetti and Whalen were subsequently appointed by the Council.

Because of the possibility that the Statewide Medical Planning Committee's proposal would not be acceptable to the Federal Government, the Council charged the committee to consider and develop an alternative proposal based on the PSRO model with CSMS as the independent sponsoring agent.

Guidelines for Withholding Emergency Resuscitation from Terminally Ill Patients

Dr. Parrella, President, submitted the subject guidelines for discussion by the Council stating that four states had published these guidelines. Following discussion, it was VOTED to refer these guidelines to the Committee on Hospitals for evaluation and report back to the Council.

Resolution to Aid the Continuing Education of Nurses

Dr. Abbot, Delegate to AMA, submitted the subject resolution, the essence of which was to create a mechanism so that nurses may attend continuing medical education courses approved for physicians and obtain nursing CME credits. It was VOTED that the resolution be approved by the Council and submitted to the CSMS House of Delegates for approval, and that the resolution also be sent to the AMA.

Date of Next Meeting

Date of next Council meeting is Wednesday, December 15, 1982.

N.B.: *The foregoing is a summary of the proceedings and actions of the Council on October 20, 1982. Detailed minutes of the meetings are on file at 160 St. Ronan Street, New Haven, for perusal by any interested member of the Society.*

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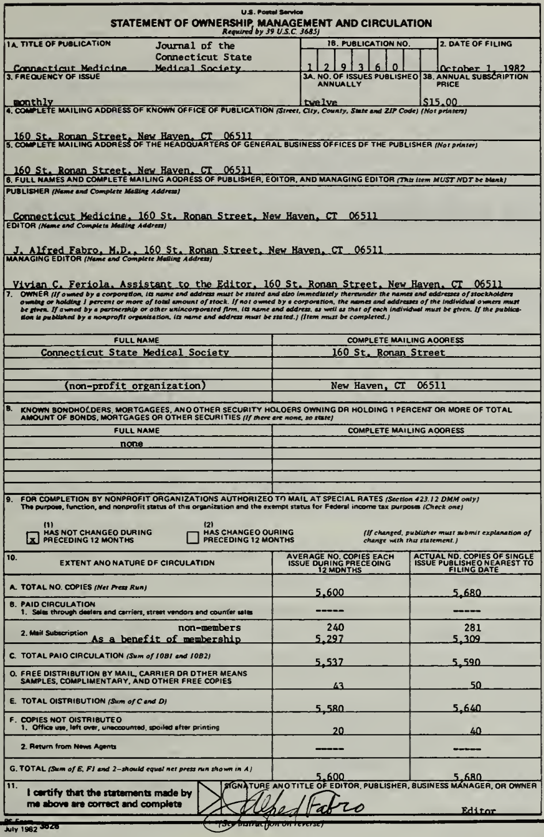

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CHARTER

(Reprinted December 1982)

The Connecticut State Medical Society was incorporated and chartered by the Connecticut General Assembly in 1792. This is believed to be the earliest private charter granted by the State of Connecticut. The Society has no constitution, the articles of incorporation serve that purpose and cannot be amended without legislative action. The Bylaws implement the Charter and it is under them that affairs of the Society are carried on. The Bylaws can be amended at any meeting of the House of Delegates after proper notice and they are often revised to keep pace with the progress and changing responsibilities of the Society. The Bylaws now published include all amendments to date. The first meeting of the Society was held in Middletown on October 9, 1792.

CHARTER

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. The charter of The Connecticut Medical Society, approved June 5, 1834, is amended to read as follows: All persons who are, at the time of the passage of this act, members of The Connecticut Medical Society and all physicians and surgeons who shall hereafter be associated with them in pursuance of the provisions of this act shall be and remain a body politic and corporate by the name of The Connecticut State Medical Society; and by that name they and their successors shall and may have perpetual succession; shall be capable of suing and being sued, pleading and being impleaded, in all suits of whatever name and nature; may have a common seal and may alter the same at pleasure and may also purchase, receive, hold and convey any estate, real and personal.

Section 2. The superintendence and management of the corporation shall be vested in a board to be known as "The House of Delegates of The Connecticut State Medical Society," which board shall have power to establish officers in said corporation and prescribe the duties of the several officers and of the members of said corporation and may fix their compensation; to establish the conditions of admission to and dismission and expulsion from said Society; to lay a tax, from time to time, upon the members and to collect the same; to hold and dispose of all monies and other property belonging to the corporation in such manner as it may deem advisable to promote the objects and interests of The Society and in general to make such bylaws and regulations for the due government of The Society, not repugnant to the statutes of the United States or of this state, as may be deemed necessary.

Section 3. The House of Delegates of the Connecticut State Medical Society shall be composed of, (1) the President, the President-Elect, the Vice President, Treasurer and Secretary of The Society, (2) delegates to be elected annually as hereinafter provided, by the several county medical associations in this State which heretofore have been and are affiliated with The Connecticut State Medical Society (3) the members of the Council of the Society, and (4) such other delegates as may be elected pursuant to the Society's Bylaws.

Section 4. An annual meeting of the corporation, for the election of officers and such other business as may, from time to time, arise, shall be held upon such day in each year as The House of Delegates shall, from time to time, prescribe. Notice of such annual meeting date shall be sent to every affiliated county medical association at least sixty days before each annual meeting date so prescribed.

Section 5. At a meeting to be held at least twenty days in advance of the annual meeting of the corporation in each year, every affiliated county association shall elect a delegate or delegates to represent it in The House of Delegates of this Society in the proportion of one delegate to each thirty-five members, or any part of that number, and the secretary of such affiliated county association shall send a list of such delegates to the Secretary of this corporation at least twenty days before the date of such annual meeting.

Section 6. There shall be in The House of Delegates, one Councilor from each affiliated county medical association. The Councilors holding office at the time of the passage of this act shall serve out the terms of office for which they were elected. At their annual meeting to be held in 1931, the affiliated county medical associations for the counties of Hartford, New London, Windham, and Middlesex shall each elect one Councilor who shall serve for two years, and at their annual meeting in 1932 the affiliated county medical associations for New Haven, Fairfield, Litchfield, and Tolland counties shall each elect one Councilor, who shall serve for two years. Thereafter each county, in groups as above mentioned, shall, biennially, elect a Councilor to fill said office for a term of two years. Any vacancy in said office may be filled by the county association of the county in which the vacancy occurs, by election to fill the unexpired portion of the term.

Section 7. The secretary of each affiliated county medical association in this state, shall, within ten days following any meeting of such association at which new members are elected, file with the Secretary of the Society a list of all members of such association who are at the time in good and regular standing and thereupon all such persons shall become members of The Connecticut State Medical Society without further action.

BYLAWS

ARTICLE I—TITLE AND DEFINITION

The name of this corporation is The Connecticut State Medical Society, Incorporated, hereinafter referred to as "The Society." It is a federacy of its component associations.

ARTICLE II—PURPOSES

Section 1. Purposes

The purposes of The Society shall be to federate and bring into one organization the medical profession of the State of Connecticut; to unite with similar societies in other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standards of medical education; to promote friendly intercourse among physicians; and to enlighten and direct public opinion so that the profession shall become increasingly useful to the public in the prevention and care of disease and in prolonging and adding comfort to life.

Section 2. Non-profit Organization

The Society is not organized, and shall never be maintained and conducted for the pecuniary profit of its members, officers, or employees but shall be, and remain, a strictly scientific and educational corporation, and no member, officer or employee of The Society shall at any time receive or be entitled to receive any pecuniary profit from the operation of The Society except a reasonable compensation for services actually rendered.

Section 3. Ethics

The Principles of Medical Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

ARTICLE III—COMPONENT ASSOCIATIONS

Section 1. Component Associations

The county medical associations in the following counties shall be the component associations of The Society: Fairfield, Hartford, Litchfield, Middlesex, New Haven, New London, Tolland, Windham.

ARTICLE IV—MEMBERSHIP

Section 1. Active Members

Par. 1—Active Membership shall be limited to those members of component associations who are certified to the Executive Director of The Society as entitled to exercise all rights of membership in their component associations including the rights to vote and hold office. A physician eligible for Active Membership in The Society becomes an Active Member of The Society on receipt by the Executive Director of The Society of dues prescribed by The Society unless he is exempted from payment of dues as provided in Article XII.

Par. 2—Active Members ceasing to be in good standing or ceasing to be members of their component associations shall ipso facto have the same status in The Society. Any Active Member expelled from his component association or placed under suspension by his component association shall ipso facto have the same status in The Society, but his right to appeal his expulsion or suspension to The Society shall not be impaired thereby. For purposes of definitions: (a) An Active Member who is expelled from membership in The Society shall have his name removed from the roster of members of The Society by the Secretary, and will not again be eligible for Active Membership in The Society until he is certified to the Executive Director as being a member in good standing of a component association. (b) An Active Member under suspension from The Society shall remain a member of The Society and shall be required to pay membership dues to The Society, but shall be denied the rights to vote and hold office during the period of his suspension.

Section 2. Associate Members

Physicians and others interested in the science of medicine and public health who are not licensed to practice medicine in the State of Connecticut, may be elected as Associate Members in The Society by majority vote of the House of Delegates at any regular or special meeting. Candidates for Associate Membership shall be required to file with the Council a formal application for membership which shall be passed upon by the Council with recommendations to the House of Delegates. Associate Members shall enjoy all of the rights and privileges of members of The Society except that they may not vote or hold elective office; they may be appointed to serve upon committees and present papers before The Society or any of its scientific sections.

Section 3. Honorary Members

Eminent physicians may be elected Honorary Members by majority vote of the House of Delegates in accordance with Article VII, Section 1. Honorary Members shall not pay dues to The Society or vote or hold office.

Section 4. Life Members

Par. 1—Any member of The Society who has been an Active Member of The Society or of the American Medical Association or of constitutent associations of the American Medical Association for thirty-five consecutive years or who has reached his sixty-fifth birthday anniversary and has been an Active Member of The Society or of the American Medical Association for fifteen or more years immediately preceding said anniversary or any Active Member of The Society who becomes totally or permanently disabled shall be eligible for Life Membership. A physician eligible for Life Membership may apply for such membership to the Executive Director of The Society and shall become a Life Member on approval by the Executive Director of such application, who shall subsequently report this action to the Council. Life Members shall not be subject to dues or assessments but shall be accorded all the rights and privileges of Active Membership in The Society including the rights to vote and hold office. Exemption from payment of dues for Life Members shall become effective on January 1 of the year following the thirty-fifth year of membership or of the anniversary year of their sixty-fifth birthday, whichever is applicable.

Par. 2—Life Members ceasing to be in good standing or ceasing to be members of their component associations shall ipso facto have the same status in The Society. Except for the payment of membership dues, from which they are exempt, the conditions and restrictions applying to Life Members who have been expelled or are under suspension shall be the same as for Active Members.

Section 5. Student And Postgraduate Physician Members

Par. 1—Any person whose legal or family residence is in the State of Connecticut and is a regularly enrolled student and a candidate for the degree of Doctor of Medicine in an accredited medical school, as provided in Section 20-10 (Rev. to 1979) of the General Statutes of Connecticut, or any person who is a student in an acceptable medical school located in the State of Connecticut may become a Student Member of The Society.

Par. 2—Physicians who are serving in postgraduate training in hospitals or medical schools in Connecticut may become members of The Society.

Par. 3—Membership shall be obtained by applying to The Society on a form provided for that purpose. A person eligible for student and postgraduate physician membership in The Society becomes a member upon receipt and approval by the Executive Director of The Society of dues prescribed by The Society unless he or she is exempted from payment of dues as provided in Article XII.

Par. 4—Such members shall enjoy all the rights, privileges, and responsibilities of membership in The Society, except as may be specifically set forth in these Bylaws.

Section 6. Limitation To One Membership

Any member shall hold only one type of membership in The Society at any one time.

ARTICLE V—HOUSE OF DELEGATES

Section 1. Powers And Duties

The superintendence and management of The Society is vested in the House of Delegates. The House of Delegates has the powers provided by the Charter of The Connecticut State Medical Society, as amended, which include the power to make such bylaws and regulations for the due government of The Society as may be deemed necessary. The House of Delegates is the legislative body of The Society. The House elects the general officers and certain boards and committees to conduct some of The Society's affairs but delegates to the Council all powers necessary to act as the executive and administrative body of The Society while the House of Delegates is not in session. Boards and committees elected by the House of Delegates shall be supervised by the Council between meetings of the House and shall make written reports through the Council to the House. The House of Delegates may provide for a division of the Scientific Assembly of The Society into sections for the presentation and discussion of subjects pertaining to the science and art of medicine, may make rules and regulations for the conduct of such sections, may create new scientific sections and may discontinue any existing scientific section.

Section 2. Composition

The House of Delegates shall be composed of: (a) delegates elected by the component associations according to the apportionment provided in Section 4 of Article V of these Bylaws; (b) those members of the Council who are eligible to vote in the Council; (c) all past presidents of The Society and such other members of The Society in good standing as may be approved by the House of Delegates, from time to time, who shall be ex-officio members of the House of Delegates without the privilege of voting; (d) delegates elected by the Student Members and Postgraduate Physicians Members according to the apportionment provided in Article V, Section 4 of these Bylaws.

Section 3. Eligibility

In order to be eligible for membership in the House of Delegates, *except as a delegate elected by the Student Members or Postgraduate Physician Members,* a physician must have been an Active Member or Life Member of The Society for at least the two years immediately preceding the session of the House in which he/she is to serve.

Section 4. Apportionment

Par. 1—The number of delegates from the component associations shall be proportional to the number of Active and Life Members of the Connecticut State Medical Society in the respective county associations. Each component association shall be entitled to send from its membership to the House of Delegates each year one delegate for every thirty-five, or fraction thereof, Active Members and Life Members of the Connecticut State Medical Society as recorded in the office of the Executive Director of The Society on December 31 of the immediately preceding year.

Par. 2—The number of delegates from the Student Members shall be one delegate and one alternate from each medical school in the state. The Postgraduate Physician Members shall be entitled to send from their constituent membership to the House of Delegates each year one delegate for every seventy, or fraction thereof, of the number of members as recorded in the office of the Executive Director of The Society on December 31 of the immediately preceding year.

Section 5. Registration

Par. 1—Certification. Before every session of the House of Delegates, each component association shall deposit with the Secretary of the State Society a certificate or list signed by the president or secretary of the component association or the Executive Director of The Society, listing members entitled to be seated in the House of Delegates on the basis of regular election, appointment or ex-officio status.

Before every session of the House of Delegates, the Student Members and Postgraduate Physician Members shall deposit with the Secretary of The Society a certificate or list signed by the president, secretary, or duly authorized representative of the Student Members and the Postgraduate Physician Members, respectively, or the Executive Director of The Society, listing those members entitled to be seated in the House of Delegates.

Par. 2—Registration. Before being seated at any annual, semiannual, or special meeting of the House of Delegates, each member shall register with the Secretary of The Connecticut State Medical Society. The Secretary shall keep a roster, and shall be responsible to the Speaker of the House for the proper qualifications of the members seated.

All cases, wherein doubt may exist that a member is properly qualified to sit in the House of Delegates, shall be referred by the Secretary to a Reference Committee on Credentials as appointed by the Speaker of the House. At the beginning of each session of the House of Delegates, immediately after Roll Call, the Chairman of the Committee on Credentials shall report to the House. Any member of The Society who is aggrieved by a decision of the Committee on Credentials may at this time appeal to the House, and may be qualified to sit by a vote of the majority present and voting.

Par. 3—Vacancies. When an elected delegate from a component association and his elected alternate are unable to attend a specified session, the appropriate authorities of the component association concerned may appoint, in accordance with the bylaws of that component association, a substitute delegate and a substitute alternate. A substitute delegate or his alternate may be seated by the Reference Committee on Credentials provided he has been an Active Member or Life Member of The Connecticut State Medical Society for at least two years immediately preceding the session of the House in which he is to serve and provided he is properly identified as the substitute delegate or substitute alternate selected by the appropriate authorities of the component association concerned.

When an elected delegate or the elected alternate from the Student Members or Postgraduate Physician Members is unable to attend a specified session, the Student Members and Postgraduate Physician Members may appoint a substitute delegate and alternate delegate.

Section 6. Status After Seating

A delegate whose credentials have been accepted by the Reference Committee on Credentials and whose name has been placed on the roll of the House shall remain a delegate until the final adjournment of that meeting of the House of Delegates. If a delegate, once seated, is unable to be present on account of sickness or any other emergency his place may be taken by an alternate.

Section 7. Regular Meetings

The House of Delegates shall meet annually during the week of the Scientific Assembly of The Society at the time and place designated by the Council. The House of Delegates shall hold one semi-annual meeting at the time and place designated by the Council. The order of business at each annual and each semi-annual meeting shall be that arranged by the Speaker of the House of Delegates in accordance with Article V, Section 12. Business that may properly come before an annual meeting may be considered at a semi-annual meeting subject to the provisions of the Bylaws.

Section 8. Special Meetings

Special meetings of the House of Delegates shall be called by the Speaker of the House of Delegates on written request of twenty-five or more delegates elected as delegates by and from component associations, or on written request of a majority of the members of the Council eligible to vote in the Council. When a special meeting is thus called, the Executive Director shall mail a notice to the last known address of each member of the House of Delegates, at least ten days before the special meeting is to be held. The notice shall specify the time and place of meeting and the purpose for which the meeting is called. No business shall be considered at a special meeting except that for which it was called.

Section 9. Open And Closed Sessions

Every regular or special meeting of the House of Delegates shall be an open session to which any person may be admitted as an observer, unless by majority vote of the seated delegates a portion of the meeting is moved into a closed session. A closed session shall be restricted to members of The Society, to members of the staff of The Society or the staff of a component association, to official delegates from other medical societies, and to such other persons as may be admitted by majority vote of the House.

Section 10. Executive Session

By two-thirds vote of the seated delegates a portion of any meeting may be moved into executive session. An executive session shall be limited to members of the House of Delegates as defined in Sections 2, 5 and 6 of Article V of the Bylaws and to such employees of The Society as the Speaker deems necessary for the functioning of the House during the executive session.

Section 11. Quorum

A quorum at any meeting of the House of Delegates shall consist of a majority of the sum of the number of delegates eligible to vote in the House.

Section 12. Procedure

Par. 1—Order of Business. The Speaker, or in his absence, the Vice-Speaker, shall set the order of business for each meeting of the House of Delegates and shall have published in the agenda for that meeting the order of business to be followed. The general categories of business to come before the House at all regular meetings shall include the following:

Call to Order by the Speaker
Roll Call
Report of Reference Committee on Credentials
Speaker's Remarks and Appointment of Reference Committees
Adoption of the Minutes of the Previous Meeting
Introduction of Guests
Reports of Officers
Reports of Committees
Presentation of Awards
Old Business
New Business, and Reports of Reference Committees
Adjournment

At any meeting, by majority vote, the House may change the order of business.

Par. 2—Privilege of the Floor. The House of Delegates, in any session, by a two-thirds vote may extend an invitation to address the House to any person, who in its judgment, might assist in its deliberation.

Par. 3—Resolutions. Resolutions may be introduced by any Active or Life Member or Student or Postgraduate Physician Member of The Society, in compliance with the following provisions.

(a) All resolutions, reports and similar items of business submitted in writing and received at the office of the Executive Director not later than thirty days before the date scheduled for that meeting shall be considered as regular business of the House of Delegates.

(b) Component county associations or the Student Member or Postgraduate Physician Member associations whose meetings are held later than thirty-five days prior to the date of the House of Delegates shall be allowed five days after the close of such meeting in which to submit resolutions, reports and similar items of business to the Executive Director's office and still have such material considered as regular business. In no event, however, may such resolutions, etc. be considered regular business if they are received later than fifteen days prior to the date of the meeting.

(c) Reports, recommendations, resolutions or other new business may be presented to the House of Delegates by the Council of The Society at any time and shall be considered as regular business.

(d) Any business which does not qualify as regular business in accordance with the foregoing provisions may be accepted for consideration by a majority vote of the delegates present and shall be referred at once by the Speaker to a reference committee. When business is introduced under the provision of this paragraph the vote shall be taken without debate, except that the introducer shall be allowed not more than two minutes to explain why it should be considered as regular business.

Par. 4—Reference Committees. The Speaker of the House of Delegates shall appoint from the members of the House such reference committees as the House may approve. Each committee shall consist of five members. The chairman shall be appointed by the Speaker. These committees shall serve only during the meeting at which they are appointed.

Section 13. Referendum

The House of Delegates at any meeting may, by a two-thirds vote of the members seated in the House, submit any question pending before it to a general referendum of Active and Life Members of The Society who may vote by mail or in person and, if the members voting shall comprise a majority of the Active and Life Members of The Society, a majority of such vote shall determine the question and the result shall be binding on the House of Delegates.

ARTICLE VI—GENERAL OFFICERS

Section 1. Designations

The general officers of The Society shall be a President, a President-Elect, a Vice-President, a Secretary, a Treasurer, a Speaker of the House of Delegates, a Vice-Speaker of the House of Delegates and the delegates and Alternate Delegates to the American Medical Association.

Section 2. Qualifications

A general officer must have been, for at least two years immediately preceding his election, an Active Member or Life Member of The Society.

Section 3. Term Of President-Elect

The President-Elect shall be elected annually by the House of

Delegates. He shall serve as President-Elect until the annual meeting of the House of Delegates next ensuing after his election and shall become President upon his installation in the course of that annual meeting, serving thereafter as President until the installation of his successor.

Section 4. Terms Of Other General Officers

Par. 1—Election. The Vice-President, the Secretary, Treasurer, and the Speaker and Vice-Speaker of the House of Delegates shall be elected annually by the House of Delegates, each to take office immediately after the adjournment of the annual meeting at which he is elected and each to serve for one year or until his successor is installed. The House of Delegates shall elect Delegates and Alternate Delegates from The Society to the House of Delegates of the American Medical Association in accordance with the constitution and bylaws of that body. These Delegates and Alternates shall take office on the first of January following their election and shall serve terms of two years.

Par. 2—Vacancies. In the event of a vacancy in the office of Vice-President, Secretary, Treasurer or Vice-Speaker or Delegate or Alternate Delegate to the American Medical Association, the Council shall fill the vacancy by appointment of an Active or Life Member of The Society to serve until the next regular meeting of the House of Delegates at which a successor shall be elected.

Section 5. Successor To The President

If the President dies, resigns or is removed from office, the President-Elect shall immediately become President and shall serve for the remainder of the term of his immediate predecessor. If said remainder of the term served is less than six months, he shall also serve as President until the second annual meeting of the House of Delegates following his election as President-Elect. If a President-Elect succeeds to the Presidency six months or more before the following annual meeting of the House of Delegates, he shall serve thereafter as President until the installation of his successor.

Section 6. Successor To The President-Elect

If a vacancy occurs in the office of President-Elect less than six months before the following annual meeting of the House of Delegates, the Vice-President shall immediately become President-Elect and shall serve as President-Elect until the second annual meeting of the House of Delegates following his election as Vice-President at which meeting he shall become President upon his installation in the course of that meeting, serving thereafter as President until the installation of his successor. If a vacancy occurs in the office of President-Elect six months or more before the following annual meeting of the House of Delegates, the Vice-President shall immediately become President-Elect and shall serve as President-Elect until the next ensuing annual meeting of the House of Delegates at which meeting he shall become President upon his installation in the course of that annual meeting, serving thereafter as President until the installation of his successor.

Section 7. Acting President

If a vacancy occurs in the office of President and there are simultaneous vacancies in the successor offices defined in Article VI, Section 5 and 6, the Secretary shall assume the duties of the office of President; the Speaker of the House of Delegates shall forthwith call a special meeting of the House of Delegates for the purpose of electing a President, a President-Elect and a Vice-President for the remainder of the terms; and the Secretary shall serve as Acting President until said three officers elected at that special meeting are installed in the course of that special meeting.

Section 8. Duties Of The President

The President shall be an ex-officio member of all committees. He shall appoint all committees not otherwise provided for in these Bylaws, subject to confirmation by the Council. He shall visit the component medical associations. He shall perform such other duties as the House of Delegates or the Council shall direct.

Section 9. Duties Of The President-Elect

The President-Elect shall aid and assist the President and shall officiate for the President during his absence or at his request.

Section 10. Duties Of The Vice-President

The Vice-President shall aid and assist the President-Elect and shall officiate for the President during the absence of both the President and President-Elect or at their request.

Section 11. Duties Of The Secretary

The Secretary, in addition to the rights and duties ordinarily devolving on the secretary of a corporation by law or custom and those granted or imposed in other provisions of the Charter and these Bylaws, shall perform such duties as may be specified by the House of Delegates or the Council. The Secretary shall make a report to the Annual Meeting of the House of Delegates.

Section 12. Duties Of The Treasurer

The Treasurer, in addition to the rights and duties ordinarily devolving on the treasurer of a corporation by law or custom, and those granted or imposed in other provisions of the Charter and these Bylaws, shall supervise the receipt of all funds due The Society, and bequests and donations made to The Society, and shall allocate funds as directed by the Council. The Treasurer shall give bond in a sum and manner of bonding prescribed by the Council. The Treasurer shall make a report to the Annual Meeting of the House of Delegates.

Section 13. Duties Of The Speaker

The Speaker of the House of Delegates shall preside at all regular and special meetings of the House of Delegates and shall perform such duties as custom and parliamentary usage require. He may address the House of Delegates at the opening of any meeting of the House of Delegates, limiting his address to matters of conduct and procedure in the House of Delegates. He shall have the right to vote in the House of Delegates only in case of a tie. He shall appoint a Committee on Credentials of five members prior to each meeting of the House of Delegates, and name a chairman thereof.

Section 14. Duties Of The Vice-Speaker

The Vice-Speaker shall aid and assist the Speaker and shall officiate for the Speaker during his absence or at his request. In case of death, resignation or removal of the Speaker, the Vice-Speaker shall immediately become Speaker and shall serve for the remainder of the term of his immediate predecessor. Except when he is officiating for the Speaker, the Vice-Speaker shall have full voting rights in the House of Delegates.

Section 15. Duties Of The Delegates To AMA

The elected Delegates, or in their absence, the Alternate Delegates, shall represent The Society in the American Medical Association in accordance with the constitution and bylaws of that association, and shall report to the Council and the House of Delegates of The Society.

ARTICLE VII—THE COUNCIL

Section 1. Powers And Duties

Par. 1—General. The Council shall be the executive and administrative body of The Society while the House of Delegates is not in session and shall control all arrangements for all meetings of The Society.

Par. 2—Chairman and Vice-Chairman. The Council shall annually elect from its membership a Chairman and Vice-Chairman. The Chairman shall preside at all regular and special meetings of the Council and shall perform such duties as custom and parlimentary usage require. He may address the Council at the opening of any meeting of the Council, limiting his remarks to matters of conduct and procedure in the Council. He shall have full voting rights in the Council. The Vice-Chairman shall aid and assist the Chairman and shall officiate for the Chairman during his absence or at his request. In the case of death, resignation or removal of the Chairman, the Vice-Chairman shall immediately become Chairman and shall serve the remainder of the term of his immediate predecessor. He shall have full voting rights in the Council. In the absence of both the Chairman and Vice-Chairman, the President shall preside.

Par. 3—Finances. The Council shall be the finance committee of The Society and shall superintend and direct all financial transactions of The Society. The Council shall prepare and submit annually to the House of Delegates a budget for the operation of The Society for the ensuing fiscal year.

Par. 4—Honorary Members. The Council may present annually to the House of Delegates the names of not more than three eminent physicians as candidates for Honorary Membership in The Society.

Par. 5—Honorary Degrees. The Council may recommend to the House of Delegates the bestowal of an Honorary Degree in Medicine upon any person not a physician, distinguished in the sciences of medicine or for contribution to human welfare.

Par. 6—Nominations. The Council shall be the Nominating Committee of The Society. The President shall be the chairman of the Nominating Committee. The Nominating Committee shall report its nominations to the first session of each annual meeting of the House of Delegates; following this report nominations may be made from the floor.

Par. 7—Annual Report. The Council shall make an annual report to the House of Delegates.

Par. 8—Student Members. The Council shall elect Student Members of The Society.

Par. 9—Employees. The Council shall have power and authority, subject to the limitation imposed by paragraph one of Section 3 of Article VII of these Bylaws, to employ, discharge, arrange duties, and fix compensation of and for any employee whom it may find necessary for conducting the affairs of The Society.

Par. 10—Counsel. The Council shall employ legal counsel and/or a legislative agent as necessary in the performance of its duties.

Section 2. Composition

The Council shall consist of the General Officers, any Active or Life Member of The Society who is serving as a general officer of the American Medical Association as defined in Article VII of the Constitution of that Association during his tenure as such general officer, one Councilor and one Associate Councilor from each component association, and one additional Associate Councilor from each component association having over 750 members, and one Councilor-at-Large. In the event that both the Councilor and the Associate Councilor(s) from a county association cannot be present, the President of that association may appoint a substitute Councilor. The Executive Director and Editor of Connecticut Medicine may participate ex-officio, and without the right to vote, in meetings of the Council.

Section 3. Executive Director

Par. 1—Appointment. The Council shall appoint an Executive Director, subject to the approval of the House of Delegates.

Par. 2—Duties. The Executive Director shall exercise all such powers, shall carry out all such duties, and shall observe all such directions and restrictions as the Council may from time to time impose upon him, but in default thereof, the Executive Director shall manage and supervise the ordinary affairs and business of The Society, and do any and all acts and things necessary or conducive to such management. The duties of the Executive Director shall include but not thereby be limited to the following:

(a) To manage The Society's office, grounds, equipment and other property.

(b) To employ such assistance as may be approved by the Council and to supervise all employees of The Society.

(c) To maintain membership and biographical records.

(d) To collect The Society dues except from the members of any component association which collects The Society dues.

(e) To collect American Medical Association dues from all members of The Society who are members of the American Medical Association.

(f) To make necessary business arrangements, including those for commercial exhibits.

(g) To record attendance and proceedings of all meetings of the House of Delegates, the Council, and other official meetings of The Society and to maintain records of all meetings of committees of The Society.

(h) To maintain The Society's financial records in cooperation with the Treasurer, The Society's bankers and auditors.

(i) To pay authorized expenditures from funds allocated by the Treasurer.

(j) To conduct the official correspondence of The Society including notifying members of meetings, officers of their election and committees of their appointment and duties.

(k) Provide guidance services to physicians seeking professional placement in Connecticut.

(l) To maintain working contact and cooperation with the component associations of The Society and with the Auxiliary to The Society.

(m) To maintain active liaison with State government agencies.

(n) To maintain active liaison with the headquarters of the American Medical Association.

(o) To maintain active liaison with voluntary health agencies serving Connecticut.

(p) To implement and coordinate the activities of The Society with respect to legislative programs.

(q) To implement and coordinate The Society's public relations and publicity programs.

(r) To aid and assist the officers, boards and committees of The Society in the performance of their powers and duties.

Section 4. Terms Of Council Membership

Par. 1—General Officers. The terms of membership in the Council of the general officers of The Society, and any general officer of the American Medical Association shall be the terms of their offices as defined in these Bylaws.

Par. 2—Councilors and Associate Councilors. Councilors and Associate Councilors, who shall serve for two years, shall be elected at the annual meeting of each of the County Associations in Hartford, New London, Windham, and Middlesex Counties in the odd-numbered years, and Councilors and Associate Councilors, who shall serve for two years, shall be elected at the annual meeting of each of the County Associations in New Haven, Fairfield, Litchfield, and Tolland Counties in the even numbered years.

These Councilors and Associate Councilors shall assume office immediately following the Annual Meeting of the House of Delegates.

Par. 3—Councilor-at-Large. The Council may, in its discretion, recommend to the House of Delegates at any annual meeting, the election of a Councilor-at-Large, who shall serve for a term of one year.

Par. 4—Limitations of Tenure. No Councilor or Associate

Councilor elected by a component association shall serve more than three successive terms of two years each in his respective office, but after a lapse of one term of two years such Councilor or Associate Councilor shall be eligible for re-election.

Par. 5—Vacancies. Any vacancy in the office of Councilor or Associate Councilor from a component association shall be filled by that component association. Any vacancy in the office of Councilor-at-Large may be filled by the Council by appointment of an eligible member of The Society to fill the unexpired portion of the term.

Section 5. Meetings

Par. 1—Regular and Others. The Council shall meet at least every two months throughout the year, except during the months of July, August, and September, and at such other times as a meeting may be called by the Chairman of the Council or upon petition of three members of the Council. The President shall call the initial meeting of the Council as soon as possible after the Annual Meeting of the House of Delegates, and shall preside at this meeting until the Council elects its chairman and vice-chairman.

Par. 2—Quorum. A quorum shall consist of one-third plus one of the voting members of the Council, with representation from at least five Counties.

Section 6. Power To Fill Vacancies

The Council shall have power to fill any vacancy which may occur in any elective office, board, or committee, for which the power to fill such vacancy is not otherwise provided, until the next annual meeting of the House of Delegates.

Section 7. Policy Initiation Or Commitment

No officer or board or committee or section or employee shall inaugurate or initiate or commit The Society to any policy unless same has been expressly approved by the House of Delegates or the Council.

ARTICLE VIII—SCIENTIFIC ASSEMBLY

Section 1. Definition

The Scientific Assembly of The Society is the convocation of its members for the presentation and discussion of subjects pertaining to the science and art of medicine.

Section 2. Meetings

Par. 1—General. General meetings of The Society shall be held annually, at a time and place designated by the Council. The annual meeting of the House of Delegates shall be held during the week of the Scientific Assembly.

Par. 2—Sections

(a) Purposes: To conduct the work of the Scientific Assembly and for related purposes, the formation of Sections of The Scientific Assembly of The Society may be authorized by the House of Delegates.

(b) Authorization: Sections of the Scientific Assembly may be created or discontinued by the House of Delegates in accordance with Article V, Section 1 of these Bylaws. Any group of physician members of The Society having a common interest in a recognized branch of medicine may, through application filed with the Council, petition the House of Delegates for authorization to form a Section in that recognized branch of medicine.

(c) Petition: A petition to the House of Delegates for authorization to form a Section shall be submitted first to the Council. It shall be in writing and include a roster of interested members, officers pro tem, and a set of Bylaws which contain the purposes of the Section and the provisions for granting membership, assessment of dues and the election of officers. Such petition shall be examined by the Council and, if found to be in order, shall be transmitted to the next regular meeting of the House of Delegates with recommendation.

(d) Membership: It is the intention of the House of Delegates that the sole qualifications for physician membership in a Section of the Scientific Assembly shall be (1) Active Membership, Life Membership or Student Membership in good standing in The Society, and (2) a bona fide, demonstrable interest in the work of the Section; and that there shall not be other contingent qualifications for such membership. Questions concerning these qualifications shall be resolved by the Council. Any Active Member, Life Member or Student Member in good standing in The Society may apply for Section Membership to the Secretary of the Section of interest and such application shall be processed expeditiously to completion in accordance with the Bylaws of the Section.

(e) Officers: Each Active Section shall have, as officers, a Chairman and a Secretary and such other officers as the members of the Section may deem advisable, each to be elected by the voting members of the Section during the annual meeting of the Section and to serve for one year. The rights to vote and hold office in a Section shall be limited to Active Members and Life Members of The Society who are in good standing. Following each annual election of officers the Secretary of the Section shall promptly inform the office of the Executive Director of The Society of the names of those elected.

(f) Meetings: Each Active Section shall hold an annual meeting during the annual meeting of the Scientific Assembly of The Society, or, if not practical due to a conflict with a meeting of a recognized national organization, during the same calendar month as the Scientific Assembly and at such other times as the members or officers may deem advisable. The officers of each Active Section shall arrange the programs for the annual meeting during the Scientific Assembly in accordance with rules established by the Council and the House of Delegates.

(g) Definition of Active Section: With reference to preceding Subparagraphs (e) and (f), an Active Section of the Scientific Assembly of The Society is defined as one that complies fully with the provisions of these subparagraphs annually. Failure to hold a meeting of the Section during the Scientific Assembly for three consecutive years shall be cause for the Section to lose automatically its active status, and, further, shall be considered cause for the House of Delegates to withdraw authorization for the Section.

Section 3. Registrants

Par. 1—General Meetings. The following shall be permitted to register at any general meeting of the Scientific Assembly subject to rules and regulations of the House of Delegates and the Council:

(a) Members of The Society—Active, Associate, Honorary, Life and Student Members.

(b) Delegates to The Society from constituent associations of the American Medical Association.

(c) Guests invited by the House of Delegates, the Council, the Executive Director, general officers or officers of a Section.

(d) Residents and interns who are certified for registration by the Executive Director.

(e) Medical students of approved medical schools who are certified for registration by the Executive Director.

Par. 2—Section Meetings. Any Section may exclude from its meetings all but duly registered members of the Section when the Section is electing officers or conducting business of the Section.

Section 4. Quorum

A quorum at any general meeting or Section meeting of the

Scientific Assembly shall be those present at a duly called meeting or, in the case of a Section, the number or proportion designated by the Section.

ARTICLE IX—"CONNECTICUT MEDICINE"

Section 1. Election Of Editor

The Council shall elect an Editor of "Connecticut Medicine" to serve until his successor takes office after election by the Council. The Editor shall serve ex-officio as a member of the Council without the right to vote.

Section 2. Powers And Duties Of Editor

The Editor of "Connecticut Medicine" shall exercise all such powers, shall carry out all such duties, and shall observe all such directions and restrictions as the Council may from time to time impose upon him, but in default thereof, the Editor of "Connecticut Medicine" shall manage and supervise the publication of "Connecticut Medicine" with full responsibility for editorial content, advertising sales, and circulation, as well as approval of all printing and paper contracts for the publication. He shall coordinate his activities with those of the Executive Director and the latter's office and to that end, he may utilize employees, equipment and facilities of The Society which are under the Executive Director's supervision and which are assigned to his service by the Executive Director.

Section 3. Finance

The Executive Director periodically shall receive from the Treasurer pro-rated portions of the fund allocated to the Editor's office and from such funds the Executive Director shall make direct payment of all expenditures necessary for the publication of "Connecticut Medicine." The report of such expenditures shall be included in the report of the Treasurer to the House of Delegates at its annual meeting.

ARTICLE X—COMMITTEES OF THE COUNCIL

Section 1. Ad Hoc Committees, Representatives And Advisors

The Council shall appoint such ad hoc committees, representatives and advisors as may, from time to time, be considered necessary or advisable to assist the Council in discharging its duties as defined in these Bylaws. Any member of The Society in good standing may be appointed to serve in these posts. The terms and duties of members serving on ad hoc committees or as representatives and advisors shall be set by the Council but, in any event, shall be reviewed annually by the Council. A current listing of such ad hoc committees, representatives and advisors, including descriptions of the functions of each, shall be maintained by the Executive Director's office. In its discretion, the Council may discharge or terminate ad hoc committees, representatives and advisors or may recommend to the House of Delegates that they be made standing committees, representatives and advisors of the House in accordance with Article XI.

Section 2. Council Subcommittees

The Council may, from time to time, appoint ad hoc subcommittees to assist in expediting the business of the Council. Such ad hoc subcommittees shall be appointed from the membership of the Council and all appointments shall be reviewed annually by the Council at its first meeting following the annual meeting of the House of Delegates. Upon completion of their assignments, such ad hoc subcommittees may be discharged by the Council at will.

ARTICLE XI
STANDING COMMITTEES, REPRESENTATIVES AND ADVISORS OF THE HOUSE OF DELEGATES

Section 1. Purpose And Election

Par. 1—Purpose. In order to provide for continuing study, recommendation and functional productivity in the several areas of purpose stipulated as being those of The Society in Article II, Section 1, of these Bylaws, the House of Delegates shall establish and maintain such standing committees, representatives and advisors as it deems necessary and shall define the titles, duties and terms of office thereof.

Par. 2—Formation and Termination. The House of Delegates may act to form or terminate standing committees, representatives and advisors at any regular meeting or at a special meeting called for the purpose. A majority vote of the delegates present and voting shall be required to approve such action.

Par. 3—Qualifications. In general, any Active or Life Member of The Society in good standing is eligible for election to these posts. In certain instances, however, the House of Delegates may limit election eligibility to members having special qualifications such as being officers or committee chairmen (by title) or having served in some capacity with The Society or the component County Associations within a stipulated period of time preceding their election.

Par. 4—Election. At each annual meeting of the House of Delegates, the Council shall present a complete slate of nominees for all standing committees, representatives and advisors extant at the time of such meeting. Following presentation of the slate by the Council, nominations may be made from the floor. The House of Delegates shall then act to elect the members of all standing committees and to designate the chairmen thereof and to elect the members to serve as representatives and advisors and make such special designations of same as may be indicated. The election of standing committees, representatives and advisors shall require a majority vote of the delegtes present.

Par. 5—Term of Office. The terms of committees, representatives and advisors shall be set by the House of Delegates. Unless otherwise prescribed by the House of Delegates, the terms of office are for one year and shall become effective immediately following the annual meeting of the House of Delegates.

Par. 6—Vacancies and Interim Appointments. In the event of a vacancy on any standing committee or in the posts of representatives and advisors, the President shall fill such vacancy if necessary by appointment and the member appointed shall serve until the next annual meeting of the House of Delegates. The President may also appoint additional members to serve on standing committees and as representatives and advisors provided that such appointments do not exceed the numerical strengths stipulated by the House of Delegates. Members so appointed by the President shall serve until the next annual meeting of the House of Delegates.

Section 2. Administration

Par. 1—Duties. The office of the Executive Director shall maintain a committee book at The Society's headquarters which shall list the titles of all standing committees, representatives and advisors authorized by the House of Delegates and record the composition and duties of each as defined originally by the House of Delegates and as may be amended from time to time by the House of Delegates. For the purpose of avoiding the formation by the House of Delegates of standing committees, representatives and advisors having duplicative or overlapping functions, the office of the Executive Director shall also list all authorized standing committees, representatives and advisors under categorical groups which are appropriate to their designated areas of activity. Such categorical groups may include, but shall not be limited to, the following: Education and Hospitals; Medical Economics; Publications; Scientific Activities; Socio-Environmental Medicine; Public Affairs; Judicial; and Representatives and Advisors.

Par. 2—Roster. The office of the Executive Director shall maintain at The Society's headquarters a current roster of members serving on all standing committees and as representatives and advisors who have been elected by the House of Delegates and shall revise such roster appropriately following each meeting of the

House. The office of the Executive Director shall also notify all such members of their election and of their duties.

Par. 3—Standing Committees—Organization and Operation. Each standing committee shall organize by electing its own vice-chairman, secretary and such other officers as it deems advisable and shall establish rules to govern its operation provided that such rules do not conflict with The Society's Charter or these Bylaws or with policies established by the House of Delegates or the Council. A standing committee may meet jointly with other standing committees, with invited guests who are members of The Society, and with others for any purpose within the purview of the committee. The Society's headquarters shall be the official headquarters of all standing committees. Each standing committee shall annually submit to the Council a proposed budget for the ensuing fiscal year and shall not expend or contract to expend funds in excess of its budget allocation without prior approval by the Council. Committees may initiate policy statements for The Society, but shall not publicize or implement such statements until they have been approved by the Council and/or the House of Delegates.

Par. 4—Representatives and Advisors—Organization and Operation. Representatives and advisors are elected by the House of Delegates as individual members or as groups of members and, in general, shall represent The Society at meetings of other organizations or in joint meetings with representatives of other organizations. Funds for the functioning of representatives and advisors may be provided as annual budget allocations, as with standing committees, or on the basis of requests for reimbursement of actual expense. No sponsorship or financial commitments are to be made by representatives or advisors on behalf of The Society to anyone or any agency without prior approval by the Council and/or the House of Delegates. The Society's headquarters shall be the headquarters for all representatives and advisors.

Par. 5—Reports. All standing committees, representatives and advisors shall, in advance of each annual meeting of the House of Delegates, submit to the Council in writing reports on their activities during the year past. The Council shall transmit all such written reports to each annual meeting of the House of Delegates and shall direct the Speaker and/or Vice-Speaker to make recommendations concerning the action required on each report. Reports may also be submitted to the Council at other times, either as information or for the purpose of making recommendations to the Council and/or the House of Delegates, and those calling for action by the House of Delegates shall be transmitted by the Council, with recommendation, to the next regular meeting of the House of Delegates or to a special meeting called for the purpose.

ARTICLE XII—DUES

Section 1. Prescription

Par. 1—Annual dues for Active Members shall be prescribed for the ensuing fiscal year in an amount recommended by the Council and approved by the House of Delegates and shall be an equal per capita assessment upon each Active Member except that physicians who become Active Members during the latter half of a fiscal year will be assessed one-quarter of the annual dues for that fiscal year.

Par. 2—Annual dues for Student Members and Postgraduate Physician Members shall be prescribed for the ensuing fiscal year in an amount recommended by the Council and approved by the House of Delegates. Dues shall be an equal per capita assessment upon each Student Member as for each other Student Member, and upon each Postgraduate Physician Member as for each other Postgraduate Physician Member, except that persons who become Student or Postgraduate Physician Members during the latter half of a fiscal year will be assessed one-quarter of the respective annual dues for that fiscal year.

Section 2. Publications

Membership dues shall include subscriptions to "Connecticut Medicine" and such other publications of The Society as are intended for distribution to all Active Members, Student Members, and Postgraduate Physician Members.

Section 3. Exemptions

The dues of any member may be remitted by vote of the Council on recommendation of a Councilor or Associate Councilor elected by the respective component association provided there has been prior remission of dues by that association, or by vote of the Council on request of a Student Member or Postgraduate Physician Member. Honorary Members, Life Members *and* Associate Members shall not be subject to assessment of dues, but may be charged for subscriptions to publications, registration fees at scientific sessions, and the like.

Section 4. Delinquency

Par. 1—An Active Member is delinquent if his dues are not paid by August first of the year for which dues are prescribed and shall forfeit his active membership in The Society if he fails to pay the delinquent dues within thirty days after notice of his delinquency has been mailed to his last known address by the Executive Director of The Society. Active Members of The Society who have been dropped from the active membership roll for nonpayment of dues cannot be reinstated until such indebtedness has been discharged, but such indebtedness shall apply only to the one fiscal year of delinquency.

Par. 2—A Student Member or Postgraduate Physician Member is delinquent if his/her dues are not paid by October 15 of the year for which dues are prescribed and shall forfeit membership in The Society if he/she fails to pay the delinquent dues within thirty days after notice of the delinquency has been mailed to his/her last known address by the Executive Director of The Society.

ARTICLE XIII—FUNDS AND EXPENSES

Section 1. Fiscal Year

The fiscal year of The Society shall commence on January first and terminate on December thirty-first of each year.

Section 2. Deposit Of Funds

All funds of The Society shall be deposited promptly upon receipt in a state or national bank.

Section 3. Budget

The annual budget of The Society for each fiscal year shall be prepared by the Council and shall be presented by the Treasurer to the House of Delegates for approval. The per capita assessment of dues and any other assessments for the ensuing fiscal year shall be recommended by the Council and shall be transmitted by the Treasurer to the House of Delegates for approval. No request or resolution appropriating funds of The Society shall be considered by the House of Delegates unless the Council has made prior review of such request or resolution and has transmitted recommendation thereon to the House of Delegates.

Section 4. Fidelity Bonds

All officers of The Society and other persons responsible for the receipt, custody and disbursement of Society funds shall be bonded at the expense of The Society by such fidelity bonds as the Council shall prescribe.

ARTICLE XIV—COMPONENT ASSOCIATIONS

Section 1. Definition

The county medical associations in Fairfield, Hartford, Litchfield, Middlesex, New Haven, New London, Tolland, and Windham Counties now in operation and in affiliation with The Connecticut

State Medical Society shall be the component county associations, of The Society.

Section 2. Function

Par. 1—The function of the component medical associations shall be to bring together into one organization the physicians of each county and these associations shall be united for the purpose of organizing the medical profession in the State of Connecticut as provided in Article II of these Bylaws.

Par. 2—Each component medical association shall stimulate, foster and cooperate with the local medical societies in the county.

Section 3. Eligibility For Membership

Requirements for eligibility for membership in a component associaiton shall be those determined by that association provided such requirements do not conflict with the Charter or Bylaws of The Society or with the Constitution or Bylaws of the American Medical Association.

Section 4. Transfer Of Component Association Membership

A member of a component association of The Society who removes his residence to another county within this state and who wishes to transfer his membership to the component association in the county of his new residence may do so upon the presentation of a certificate signed by the Secretary of the component association of which he is a member. This certificate shall state that he is a member in good standing in the component association in the county where he previously resided and that his financial obligations to that association for the current year have been paid. The certificate shall be accompanied by a regular application for membership. The component association in the county of his new residence shall add him to the rolls of that association without formality or without charging any dues for the remainder of the year of his transfer.

Section 5. Transfer From Another State Society

A member of a state medical society in another state, that is a component of the American Medical Association, wishing to transfer his membership to a component association of The Society shall present to the Secretary of the component association of The Society in which he is seeking membership a certificate from the Secretary of the county or state medical society of his previous residence. This certificate shall state that he is a member in good standing in that county or state medical association. This certificate and a properly completed application for membership shall be forwarded to the Board of Censors or Credentials Committee of the component association in this state in which he is seeking membership and that Board of Censors or Committee on Credentials may recommend his election at the next meeting of the component association subject to membership eligibolity rules of that component association.

Section 6. Membership Roster

The Secretary of each component association shall keep an individual record of the members of that association, and this record shall include the full name, address, college degrees with year, medical schools attended with school and year of graduation, hospital affiliations, type of special practice, if any, and the date of registration in this state. Notations shall also be made concerning transfer and termination of membership.

Section 7. Discipline

Par. 1—Original Jurisdiction. In its disciplinary proceedings other than appeals from acts of component associations, the Judicial Committee of The Society shall afford to the member whose conduct is involved the following rights in protection of his honor and professional reputation and the fairness of the proceedings:

(a) A written statement as to the nature and source of the charges made against the member;

(b) One or more hearings before the Judicial Committee, each such hearing to be held upon not less than 10 days' prior written notice to the member;

(c) At each such hearing, the right to be present and to be advised by a medical colleague and by legal counsel, to present witnesses and other relevant evidence, to cross-examine witnesses testifying against him, and to present oral argument.

Par. 2—Appeals from Component Associations.

(a) Any member of The Society who is aggrieved by disciplinary action of the component association of which he is a member shall have the right of appeal to the Judicial Committee of The Society, which shall review the proceedings and render a decision as herein provided.

(b) Each component association, upon taking such disciplinary action, shall send to the member by registered mail, written notice thereof and of his right of appeal under this Paragraph.

(c) Execution of such disciplinary action shall be automatically stayed during the 15 day period provided for in subparagraph (e) (1) of this Paragraph and also, unless the component association otherwise provides, during the period of the pendency and disposition of an appeal to the Judicial Committee.

(d) The members of the Judicial Committee shall be impartial to the parties and to the substance of the charges. Therefore, if anyone shall disqualify himself or, for cause on challenge, shall be disqualified by vote of one-third of the members of the Judicial Committee present and voting, the Chairman of the Council and the President of The Society shall appoint a substitute.

(e) The procedure for taking and perfecting such an appeal shall be as follows:

(1) Within 15 days following receipt of notice of the action of the component association the member shall file with the Executive Director of The Society an original and two copies of a Notice of Appeal personally signed by the member, which shall reasonably identify the component association concerned and the action from which the appeal is taken.

(2) Within 10 days following receipt of such Notice of Appeal, the Executive Director shall send one copy thereof to the Secretary of the component association and one copy to the Chairman of the Judicial Committee.

(3) Within 30 days following its receipt of such Notice of Appeal, the component association shall file with the Judicial Committee a concise summary statement of the case, stating the charges against the appellant, the findings of fact, and the penalty imposed, all as determined by the disciplinary body or official of the component association, and shall at the same time file a copy of such summary statement with the appellant.

(4) Within 30 days following receipt of such copy of such summay statement the appellant shall file with the Judicial Committee a reply statement specifying the procedures, findings of fact, conclusions or penalties which the appellant intends to controvert or challenge, and shall at the same time send a copy of such reply statement to the Secretary of the component association.

(5) Within 10 days following receipt of the appellant's reply statement, the Judicial Committee shall set a date for a hearing on the appeal and shall give written notice of the date, time and place thereof to the appellant and the component association, which date shall be not less than 10 days nor more than 30 days after the date such notice is given.

(f) The procedure for hearing and decision on the appeal shall be as follows:

(1) The appellant and the component association, through its proper representatives, shall each have the same right to be

present, to be advised and counselled, to cross-examine witnesses and to present oral argument as is provided in Paragraph 1 of this Section with respect to hearings by the Judicial Committee in original jurisdiction cases.

(2) At any time prior to the conclusion of the hearing the appellant and the component association may submit written briefs, accompanied by such documentary evidence as may be relevant, as to his or its position and claims, serving a copy thereof on the other party. No reply brief shall be filed by either party except upon prior leave of the Judicial Committee.

(3) The Judicial Committee shall determine the procedure at the hearing, including the time allotted to each party and the order of presentation.

(4) Except as the Judicial Committee shall determine under exceptional circumstances that it is necessary in order to prevent a miscarriage of justice, neither the appellant nor the component association shall present the direct testimony of individual witnesses.

(5) For cause shown and upon reasonable notice, the Judicial Committee may postpone, adjourn or continue the hearing if such action is by it deemed necessary to a full and fair review of the case.

(6) The Judicial Committee, upon written request received at any time prior to the expiration of the period of time herein limited for any action to be taken by any party to an appeal, may extend for such period as it may deem reasonable the time limited for such action. Failure of a party to take any such action within the period so limited therefor (including extensions thereof, if any) shall be grounds for dismissal of the appeal, as to the appellant, or its remand to the component association under subparagraph (g) (3) of this Paragraph, or for the Judicial Committee to proceed with a hearing of the appeal as provided in subparagraph (e) (5) of this Paragraph.

(g) The disposition of the appeal shall be made in accordance with the following rules:

(1) The Judicial Committee shall not try the case *de novo,* but shall sit as a Board of Review and shall dispose of the case upon its determination of the following basic questions:

(A) Whether the appellant received a fair hearing in accordance with the principles stipulated in Paragraph 1, of Article XIV, Section 7, before the disciplinary authority of the component association;

(B) Whether the facts found against the appellant are reasonably supported by the evidence considered by such disciplinary authority;

(C) Whether the penalty imposed was reasonable.

(2) In reaching its decision the Judicial Committee shall vote by written ballot on the three basic issues above described and upon the final disposition of the appeal. In each such vote the decision shall be rendered by a majority of the members of the Committee present at and participating in the hearing.

(3) Unless at least one of items A, B and C of subparagraph (1) above shall be decided by the Judicial Committee in the negative, the Committee's decision shall be that the appeal is dismissed. If any one or more of such items shall be decided in the negative by the Judicial Committee, it shall remand the case to the component association under one or more of the following:

(A) With recommendation as to the holding of a new hearing on the original charges;

(B) With direction to dismiss the charges altogether;

(C) With direction that the penalty imposed is to be reduced.

(4) Upon rendition of its decision, the Judicial Committee shall give written notice thereof to the Executive Director of The Society and, by registered mail, to the Secretary of the component association and to the appellant, and, if the appellant is a member of the American Medical Association, notify him of his right of appeal under the following paragraph.

(5) The disciplinary findings and acts of the Judicial Committee are final, whether in exercise of its original jurisdiction or its jurisdiction in appeals from component associations. Members of the AMA may appeal such findings and acts to the Judicial Council of the AMA under AMA rules and procedures. Execution of acts of the Judicial Committee shall be stayed automatically during such period as may be authorized by the AMA for any such appeal made to the AMA, unless the Judicial Committee otherwise provides during the period of the pendency and disposition of such appeal.

(h) All periods of time herein prescribed for sending or filing any notice or other document shall be determined by the U.S. Postal Service postmarked date on which such notice or document is mailed.

Par. 3—Expulsion and Suspension. An Active or Life Member shall be expelled or suspended, as the case may be, upon receipt by the Executive Director of written certification by the Chairman of the Judicial Committee setting forth:

(a) That the Judicial Committee has found, after due notice and hearing, as provided in Paragraph 1 of this Section, that the member has been convicted by final judgment of any Court, of a criminal offense which is punishable, irrespective of the punishment which in fact is imposed for such conviction, by imprisonment for a term of one year or more in a penal institution of the United States, of this State or of any other State; and

(b) That the Judicial Committee has determined that the member shall be expelled or shall be suspended from Active or Life Membership for a specified term, not to exceed two years.

The Executive Director, within 10 days of receipt of such written certification, shall send a copy thereof to the Secretary of the component association of which the expelled or suspended Active or Life Member is a member.

Section 8. Termination Of Membership

When membership in a component association terminates for any cause, membership in the Connecticut State Medical Society shall be terminated automatically as of the same date.

Section 9. Dues

Any component association may, at its option, collect the annual dues assessed by The Society in conformity with regulations established by the Treasurer of The Society. Bills for these dues shall be rendered to all members immediately following January 1 of each year and the component association shall forward all monies so collected on behalf of The Society to the Treasurer of The Society quarterly and at such other times as the Treasurer may direct and they shall accompany all payments with a report on a form to be provided by the Treasurer. If a component association does not elect to collect the annual dues assessed by The Society as provided above, the Treasurer of The Society shall collect the annual dues assessed by The Society from the members of that component association and collect also the dues assessed by that county association. In that event, the Treasurer of The Society shall remit to the component association periodically all monies collected on behalf of that association and shall file an accounting of all component association assessments so collected for the year just closed with the component association before the 15th of January of each year.

Section 10. Bylaws

The component associations shall have the power to adopt only such bylaws as are not in conflict with the Bylaws of The Connecticut State Medical Society. In the event of an existing or apparent conflict, the Bylaws of The Society shall take precedence over those of a component association.

ARTICLE XV—ASSOCIATIONS OF STUDENT MEMBERS AND POSTGRADUATE PHYSICIANS

Section 1. Definition

The Council shall sanction associations of Student Members and Postgraduate Physician Members. These associations shall meet between forty-five and sixty days prior to the annual meeting of the House of Delegates of The Society for the purpose of election of officers and delegates to The Society and at such other times as they deem necessary.

Section 2. Bylaws

The Student Member and Postgraduate Physician Member associations shall have the power to adopt bylaws that are not in conflict with the Bylaws of The Society. In the event of an existing or apparent conflict, the Bylaws of The Society shall take precedence.

Secton 3. Procedural Rights

Student and Postgraduate Physician Members shall be afforded all the procedural rights of due process as set forth in Section 7 of Article XIV of these Bylaws.

ARTICLE XVI—AMENDMENTS TO BYLAWS

Section 1. Action

The Bylaws of The Society may be amended by a majority vote of the total number of the voting members of the House of Delegates.

Section 2. Procedure

Proposed amendments to the Bylaws shall be submitted to a meeting of the House of Delegates and shall immediately be placed upon the table without discussion. Such amendments shall lie upon the table until the next regular meeting of the House of Delegates and shall be published in "Connecticut Medicine" on one or more occasions prior to that next meeting and shall be published in the call to that meeting, at which meeting the amendments shall be taken off the table and acted upon by the House of Delegates.

ARTICLE XVII—PARLIAMENTARY PROCEDURE

Section 1. Rules Of Order

In all matters of parliamentary procedure, The Society shall be governed by the most recent edition of Roberts Rules of Order (Revised).

Section 2. Enablement Clause

The adoption of these Bylaws rescinds and revokes all previous Bylaws of The Society and supersedes their operation.

MEDICAL ETHICS

The Bylaws of the Connecticut State Medical Society state that "the Principles of Medical Ethics of American Medical Association shall govern the conduct of members in their relations to each other and to the public."*

Preamble:

The medical profession has long subscribed to a body of ethical statements developed primarily for the benefit of the patient. As a member of this profession, a physician must recognize responsibility not only to patients, but also to society, to other health professionals, and to self. The following Principles adopted by the American Medical Association are not laws, but standards of conduct which define the essentials of honorable behavior for the physician.

I. A physician shall be dedicated to providing competent medical service with compassion and respect for human dignity.

II. A physician shall deal honestly with patients and colleagues, and strive to expose those physicians deficient in character or competence, or who engage in fraud or deception.

III. A physician shall respect the law and also recognize a responsibility to seek changes in those requirements which are contrary to the best interests of the patient.

IV. A physician shall respect the rights of patients, of colleagues, and of other health professionals, and shall safeguard patient confidences within the constraints of the law.

V. A physician shall continue to study, apply and advance scientific knowledge, make relevant information available to patients, colleagues, and the public, obtain consultation, and use the talents of other health professionals when indicated.

VI. A physician shall, in the provision of appropriate patient care, except in emergencies be free to choose whom to serve, with whom to associate, and the environment in which to provide medical services.

VII. A physician shall recognize a responsibility to participate in activities contributing to an improved community.

*This revised Code of Ethics was adopted by the AMA at its July, 1980 Annual Meeting.

PHYSICIAN PLACEMENT SERVICE

The Society maintains the Physician Placement Service as a service to the medical profession in Connecticut. Opportunities for physicians to locate in Connecticut will be published as space permits and will be distributed to physicians making inquiries of such opportunities. Information should be sent to 160 St. Ronan St., New Haven, CT 06511 (203-865-0587).

Physicians wishing to establish practice in Connecticut are invited to submit a resume to be kept on file with the Society. An announcement of a physician's availability will be published in two issues of *Connecticut Medicine* as space permits.

OPPORTUNITIES FOR PRACTICE

(If no name is listed, contact the Physician Placement Service for more details.)

ANESTHESIOLOGY

Excellent opportunity for young certified anesthesiologist, qualified in invasive monitoring, to join MD-CRNA team in beautiful New England town. Send CV to Milford Anesthesia, P.D., 205 Church Street, Suite 414, New Haven, CT 06510.

FAMILY PRACTICE

Associate in large family practice urgently needed in town of 18,500. Second doctor recently retired. Located on the water of beautiful Long Island Sound, where many water sports and sandy beaches abound. Community hospital close by in New London. Call: Grace D. Ellis, M.D., 203-443-7545.

General/Family Practice for sale. Well established in excellent Stratford location. Large modern, well-equipped office. Family leaving state. Price negotiable. Take possession January, 1983. Contact Leslie Kyrytschenko, 161 Kenwood Ave., Stratford, CT 06497 (203) 375-0320.

INSTITUTIONAL MEDICINE

Wanted: Physicians to work part time in clinic in New Haven area (evenings or weekends). Send c.v. and availability to CSMS, INST/CRR.

INTERNAL MEDICINE

Internist with subspecialty in Cardiology, Gastroenterology or Pulmonary Medicine to associate with established Internist in community near Hartford and New Haven. Send curriculum vitae to CSMS, IM/JKY.

MISCELLANEOUS

Pediatrics and Family Practice openings in multi-specialty group in beautiful rural Connecticut. Outstanding living and recreational area. Salary followed by partnership. Send CV to CSMS, MISC/SC.

Wanted: Associates in Medicine, Family Practice, Pediatrics, etc., to share new professional building in the town of Litchfield. We have a catchment population of about 20,000 people, and presently only one medical man here with hospital privileges. Please contact Dr. Norman Smith (489-5068) or Dr. George Carofino (567-9488).

OPHTHALMOLOGY

Seeking ophthalmologist to practice within an independent solo practioner multi-specialty group. Excellent practice opportunity in suburban Hartford. Potential for providing equipment as part of rental agreement. Please write: CSMS, OPHTH/CSP.

ORTHOPEDIC SURGERY

Well established Board-certified Orthopedic Surgeon in Waterbury, Connecticut, seeking associate. Attractive practice. Excellent opportunity. Send resume to CSMS, ORTHO/VT.

WANTED ORTHOPEDIC SURGEON. Young board-qualified orthopedic surgeon to share office with senior orthopedic surgeon who no longer operates. Will get all surgical referrals along with prospect of taking over thriving office practice, pending future retirement. New Haven area. Reply CSMS, NS/ORTHO.

OPPORTUNITIES FOR PRACTICE

(If no name is listed, contact the Physician Placement Service for more details.)

OTOLARYNGOLOGY

Seeking qualified ENT specialist to share expenses in my well established and furnished office in central Connecticut. Surgery will be referred. A later opportunity for a buy out of this office in a highly desirable and progressive area. Reply CSMS, OTO/LC.

PEDIATRICS

Pediatric group practice in Middlesex County desires part-time pediatrician BC/BE in order to expand practice in satellite office in shoreline area. Please send curriculum vitae to: Middlesex Pediatric Associates, P.C., 80 South Main Street, Middletown, CT 06457.

PHYSICIANS WISHING TO LOCATE IN CONNECTICUT

ANESTHESIOLOGY

90 day notice. Presently in practice. Age: 39. AB elig. MD, University of San Simon; Int., Indiana University Hospital; Res., Conemaugh Valley Hospital, PA; Fellowship, Hospital de Clinicas, Uraquay. Prefers solo type practice in small to medium size community. Write: Alvaro N. Paz, M.D., 511 West Ave., Emporia, VA 23847.

EMERGENCY MEDICINE

July '83. Age: 30. FLEX. AB elig. MD, Rush Medical College, Chicago; Int., Northwestern University, Chicago; Res., Johns Hopkins Hospital, Baltimore. Would like to work as an attending physician in an active Emergency Room. Has a Masters of Public Health from University of Illinois. Write: Janne Noel Breadon, M.D., 807, 550 N. Broadway, Baltimore, MD 21205.

INSTITUTIONAL MEDICINE

MEDICAL MICROBIOLOGY. Jan. '83. Licensed in Connecticut. AB cert. MD, Saigon University, Saigon, Vietnam; Int., Saskatoon City Hospital, Canada; Res., Montreal General Hospital, Royal Victoria Hospital, Canada and Johns Hopkins University (Doctor of Public Health). Would like to work in a Hospital full or part time. Also available as staff physician for veneral diseases clinic or consultant in tropical medicine. Write: CSMS, GTT/INST.

INTERNAL MEDICINE

GASTROENTEROLOGY. June '83. Age: 31. Nat'l bds. AB cert. MD, University of Miami; Int., Res. and Fellowship, University of Utah Medical Center. Prefers solo, group or associate type practice in a medium size community. Training in esophageal sclerotherapy, laser phototherapy and endoscopic papillomoy. Write: Louis D. May, M.D., 2122 Kensington Ave., Salt Lake City, UT 84108.

July '83. Age: 28. Nat'l bds. MD, University of Connecticut; Int. and Res., Coney Island Jewish Hillside Medical Center, NY. Prefers group or associate type practice. Is especially interested in the greater Hartford area but will consider other areas. Write: Jonathan Mohrer, M.D., 104-60 Queens Blvd., Apt. 11A, Forest Hills, NY 11375.

Negotiable. Presently in practice. Age: 33. Licensed in Connecticut. Nat'l bds. AB cert. MD, Albert Einstein; Int., Montefiore Hospital, Pittsburgh. Prefers solo, group or associate type practice in a medium size community. Write: CSMS, RWS/IM.

Dec. '82. Age: 33. Presently in practice. Nat'l bds. AB cert. MD, Medical College of Pennsylvania; Int. and Res., University of Oregon Health Science Center. Interested in group practice in HMO type of organization. Valerie A. I'Anson, M.D., 414 E. 28th St., Vancouver, WA 98663. Phone: (206) 696-4061 (work) or 694-1406 (home).

HEMATOLOGY. July '83. Licensed in Connecticut. Age: 29. Nat'l bds. AB cert. MD, University of Kansas; Int. and Res., Bridgeport Hospital; Fellowship, Bronx, VA Hospital and Mount Sinai Hospital, NY. Prefers group practice. Write: Robert J. Bernasek, M.D., 4 Newtown Tpk., Westport, CT 06880.

PULMONARY MEDICINE. July '83. Licensed in Connecticut. Age: 33. AB cert. MD, Chonnam University Medical School; Int., Brookdale Hospital, Brooklyn, NY; Res., Lutheran Medical Center and Wayne State University Hospital, Detroit, MI. Interested in solo, group, associate or institutional type practice in a medium to large size community. Write: Young J. Ko, M.D., 2927 Dorchester, Apt. 206, Troy, MI 48084.

Oct. '82. Licensed in Connecticut. Age: 31, AB elig. FLEX. MD, Stanley Medical College, India; Int. and Res., Upstate Medical Center, NY. Prefers group, assoc. or institutional type practice. Write: CSMS, BS/IM.

Summer 1983. Presently in practice. Age: 34. Nat'l bds. AB cert. MD, Downstate Medical Center; Int. and Res., Kings County Hospital; Fellowship, George Washington University. Prefers group or assoc. type practice in medium size community. Willing to do general primary care medicine and pulmonary medicine and would like to be closely affiliated with a hospital. Write: CSMS, IPK/IM.

GASTROENTEROLOGY. July '83. Age: 30. Licensed in Connecticut. Nat'l bds. AB cert. MD, Hahnemann Medical College, Philadelphia, PA; Int. and Res., Norwalk Hospital, Norwalk, CT; Fellowship, Bridgeport Hospital, Bridgeport, CT. Prefers group or assoc. type practice in medium to large size community. Write: CSMS IM/RLE.

GASTROENTEROLOGY. July '83. Age: 29. Nat'l bds. AB elig. MD, McGill University; Int., Jewish General Hospital, Montreal; Res., Albert Einstein, Philadelphia and Montreal General Hospital; Fellowship, McGill University Hospitals. Prefers group, associate or institutional type practice in medium to large size community. Write: Leonard Luterman, M.D., 5740 Cavendish Blvd., #1308, Montreal, Quebec, Canada H4W2T8.

July '83. Age: 28. Nat'l bds. AB elig. MD, Columbia University; Int. and Res., Rhode Island Hospital. Interested in a general adult Internal Medicine practice preferably joining a group of physicians with similar interest in the greater Hartford area. Write: Paul A. Dolinshy, M.D., 22 Sargent Ave., Providence, RI 02906.

CARDIOLOGY. July '83. Age: 29. Nat'l bds. AB cert. MD, Georgetown University, Washington, DC; Int. and Res., Albany Medical Center, NY; Fellowship, Strong Memorial Hospital, NY and New England Deaconess Hospital, Boston. Prefers group, associate or institutional type practice in medium to large size community. Write: Andrij Ostap Baran, M.D., 6211 Stearns Hill Rd., Waltham, MA 02154.

CARDIOLOGY. July '83. Age: 31. Nat'l bds. AB cert. MD, NYU School of Medicine; Int., Res. and Fellowship, State University of NY, Upstate Medical Center. Prefers solo, group, associate and institutional type practice. HMO will be considered. Write: Jared M. Insel, M.D., 414 Fellows Ave., Syracuse, NY 13210.

Nov. '82. Age 30. FLEX. AB elig. MD, Smt. N.H.L. Municipal Medical College, India; Int. and Res., Charity Hospital, L.S.U. Medical Center and Brigham/Brockton V.A./Waltham Hospitals. Prefers group or institutional type practice. Write: P.O. Box 236, Waterford, CT 06389.

NEPHROLOGY. July '83. Age 29. Nat'l bds. AB cert. MD, Washington University, St. Louis; Int. and Res., University of Minnesota Hospitals; Fellowship, University of Pennsylvania. Prefers group, assoc. or institutional type practice. Write: Carl S. Goldstein, M.D., 860 Gates Pavilion/3400 Spruce St., Philadelphia, PA 19104.

RHEUMATOLOGY. July '83. Age 30. Nat'l bds. AB cert. MD, Harvard University; Int., Res. and Fellowship, Brigham and Women's Hospital. Prefers group practice. Write: David L. George, M.D., 76 Saint Paul St., #6, Brookline, MA 02146.

Jan. '83. Age 33. Nat'l bds. AB cert. MD, University of Virginia; Int. and Res., St. Luke's Hospital Center, NY. Seeking part-time employment for 16-20 hrs/wk. in a salaried position, preferably an out-patient or industrial clinic. Must be within ½ hr. commuting distance of West Hartford. Write: CSMS, IM/MBK.

Immediately available. Presently in practice. Age 30. Nat'l bds. AB elig. MD, University of Minnesota Medical School; Int. and Res., St. Paul-Ramsey Medical Center, University of Minnesota affiliated Hospitals. Prefers group, assoc., institutional and industrial type of practice. Write: Jeffrey E. Sudeith, M.D., 545 W. Sandhurst Dr., #302, St. Paul, MN 55113.

OTOLARYNGOLOGY

Sept. '82. Age: 30. Nat'l bds. AB elig. MD, Tufts University; Int., Montefiore Hospital, NY: Res., University of Miami. Prefers solo, group or assoc. type practice in medium to large size community. Write: Richard Schiffman, M.D., 2717 East 28th St., Brooklyn, NY 11235.

PATHOLOGY

Presently. Age 33. FLEX. AB elig. MD, DR.S.N. Medical College, India; Int., Rotatory M. Giandhi Hospital; Res., Miami Valley Hospital, Dayton, OH. A full time job is required as soon as possible. Location and salary are no consideration. Write: Pushpa Gupta, M.D., 1005 Thorndale Dr., Dayton, OH 45429.

PEDIATRICS

Jan. '83. Age: 30. Nat'l bds. AB elig. MD, Wayne State University, Detroit; Int. and Res., Children's Hospital of Michigan; Fellowship, University of Rochester, NY. Prefers HMO, group, associate or institutional type practice. Write: Garry S. Sigman, M.D., 123 Marlborough Rd., Rochester, NY 14619.

NEONATOLOGY. July '83. Age 30. Nat'l bds. AB elig. MD, Int. and Res., Albert Einstein College of Medicine; Fellowship, Columbia Presbyterian Medical Center. Is interested in working at a level II-III Neonatal intensive care unit. Write: CSMS, PED/JCM.

PSYCHIATRY

Negotiable. Age 41. Licensed in Connecticut. Presently in practice. FLEX. AB elig. MD, Kakatiya Medical College, Warangal, A.P., India; Int., Rotatory-India and Internal Medicine-England; Res., Internal Medicine-India and Psychiatry-England; Fellowship, Norwich Hospital. Prefers group, assoc., institutional, industrial or consultation (part-time). Write: Ahmed N. Syed, M.D., P-7 Village Green, 3930 Broad River Rd., Columbia, SC 29210.

SURGERY

PLASTIC SURGERY. July '83. Age: 41. Nat'l bds. AB cert. (Otolaryngology); AB elig. (Plastic Surgery). MD, University of Miami; Int., Lenox Hill Hospital; Res., Manhattan Eye and Ear Hospital and St. Barnabas Medical Center. Desires solo or assoc. type practice. Write: Richard A. Moss, M.D., Apt. #11, 141 Old Short Hills Rd., West Orange, NJ 07052.

VASCULAR/GENERAL SURGERY. July '83. Age: 31. Nat'l bds. AB elig. MD, SUNY—Downstate; Int., Res. and Fellowship, CUNY—The Mount Sinai Hospital, N Y Prefers group type practice. Write: Larry E. Shindelman, M.D., 201 W. 89th St., New York, NY 10024.

UROLOGY

Jan. '83. Licensed in Connecticut. Presently in practice. Age: 59. State boards. AB cert. MD, University of Geneva; Int., Brooklyn Jewish Hospital; Res., USVAH, Brooklyn, NY and Mount Sinai Hospital, NY. Prefers group or assoc. type practice in medium size community. Write: Donald R. Krawitt, M.D., 2675 Winkler Ave., Fort Myers, FL 33901.

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